

User manual for
Exalto

Wiper Technologies  since 1965



Exalto wiper control type CT3N (Item no. 210321224-210351224)

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Declaration of conformity

1. General

CT3N is an electronic wiper control system for up to five motors. CT3Nn is composed by one control panel and one relay box. The control panel and the relay box are connected by an CAT5 cable (CAN Bus cable).

1.1 Features

- Double voltage supply: 12V - 24V
- Activates/deactivates each wiper one by one
- Synchronization in every mode
- Three (four with one speed motors) intermittent settings
- Dynamic brake
- Wipe/wash program
- Single wipe function
- Heater activation (additional relay box required)
- Selection of backlighting color and brightness
- Fault and error signaling

1.2 Standard supply

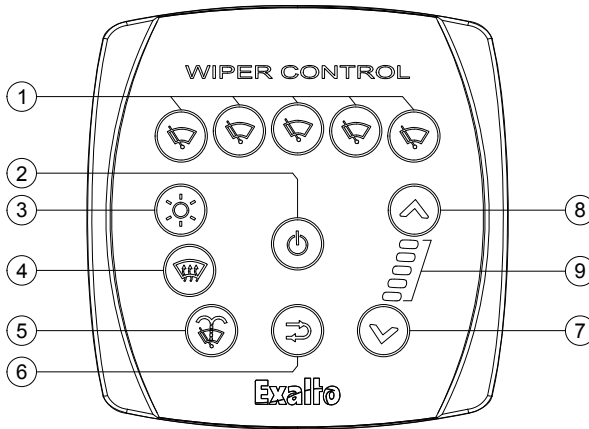
- 1 x Control panel
- 1 x Relay box
- 1 x 5 meter cable or CAN Bus connection
- 1 x 4-poles female connector for Relay box to motors connection (1 for each motor)
- 1 x female 6,3mm fast-on terminal for washing pump connection
- 2 x (or 4 if more than 3 wipers) female 9,5mm fast-on terminal for power supply connection

1.3 System configuration

Model	No. of wipers	Control panel	Relay box	Art. code
CT3N2	2	210321224.P	210321224.R	210321224
CT3N3	3	210331224.P	210331224.R	210331224
CT3N4	4	210341224.P	210341224.R	210341224
CT3N5	5	210351224.P	210351224.R	210351224

If user need two stations, wire up the adding panel (optional) via CAN BUS to the relay box.

2. Buttons functions and signalings



1. Single wiper ON/OFF button
2. General ON/OFF button
3. Backlighting color and brightness button
4. Heaters button (additional relay box required)
5. Wash button
6. Single wipe button
7. Decrease speed / increase intermittent delay
8. Increase speed / decrease intermittent delay
9. Selected mode led bar

3. Operating mode

The operating mode available depends on the number of the motor's speeds.
If using **two**-speed motors:

Speed bar	Waiting time	Mode
All Leds OFF	-	Stand-by
1 x Led ON	8 seconds	Intermittent
2 x Led ON	4 seconds	Intermittent
3 x Led ON	2 seconds	Intermittent
4 x Led ON	-	Continuous (slow)
5 x Led ON	-	Continuous (fast)

If using **one** speed motors:

Speed bar	Waiting time	Mode
All Leds OFF	-	Stand-by
1 x Led ON	8 seconds	Intermittent
2 x Led ON	6 seconds	Intermittent
3 x Led ON	4 seconds	Intermittent
4 x Led ON	2 seconds	Intermittent
5 x Led ON	-	Continuous

4. Wash program

By pressing the wash button, washing program will start.

| 3 sec. | | 3 sec. | | 4 sec. |
|=== Spray === Spray ===|
|===== Wipe ===== Wipe ===|

Keep pressed button 5 to increase wash timing and spray + wipe time. After wash cycle, wipers will return to operate in the previous selected mode.

5. Single wipe function

The single wipe function is allowed only when all the wipers are off. Push the button 6 to perform the single wipe. Keep pushed to perform more than one wipe.

6. Heating function (additional relay box required)

The control panel can activate/deactivate the heaters, only if a relay box (additional) is installed. The button 4 activates the heaters when pushed. To deactivate push the button again. When the heaters are active, the button is lighted up.

7. Backlight brightness and colors

The button 3 performs the brightness adjustment and the color selection. Pushing it momentary the brightness level will change. Four brightness levels are available. Keeping it pushed the backlighting color will change.

8. Power supply

The Exalto wiper control will operate correctly if powered from 10V to 30V. Insert the motor connectors before applying power source. When powered the control will execute a lamp test and then will go into standby mode.

9. Failures and signalings

9.1 Reset function

With any failure we recommend first that you perform a reset process to the control system:

- turn power off at distribution panel
- remove the positive and negative feed to the relay box
- make sure all motors are connected correctly tot the relay box
- please leave for 30 seconds
- reconnect positive and negative feeds to relay box
- turn power on at distribution panel
- the system will execute a lamp test

If problems continues check notes on section 8.1 or 8.2.

9.2 Motor fault

The flashing of a wiper button indicates that CT3N detects an error on a wiper.

This may happen if:

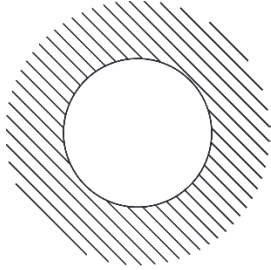
- the parking switch is unconnected or damaged
- the motor doesn't run (internal self-resetting fuse in protection, motor unconnected or damaged)
- the motor doesn't run in FAST or in SLOW speed
- the motor can't be synchronized
- the motor connectors have been inserted after supplying power.

9.3 Communication error

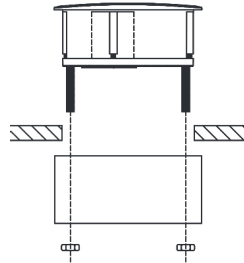
A shifting effect of the mode bar led indicates that control panel can't communicate with the relay box; this may happen if the flat cable is damaged or improperly connected or if there is a problem with the CAN Bus terminations.

10. Installation

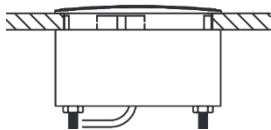
1. Drill the support with a 90mm diameter circular hole



2. Set the panel on the hole and insert the threaded bar on the hole of the cap sit on the back of the support

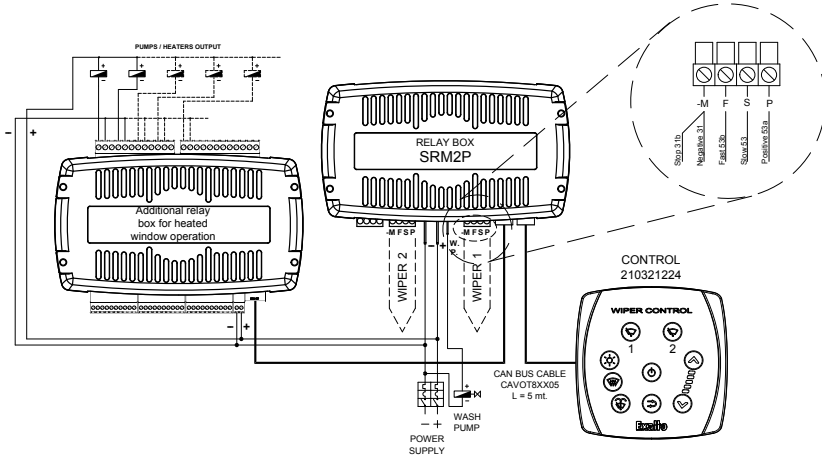


3. Fix the panel to the support by the supplied bolts and connect it to the relay box by the 8-pole cable

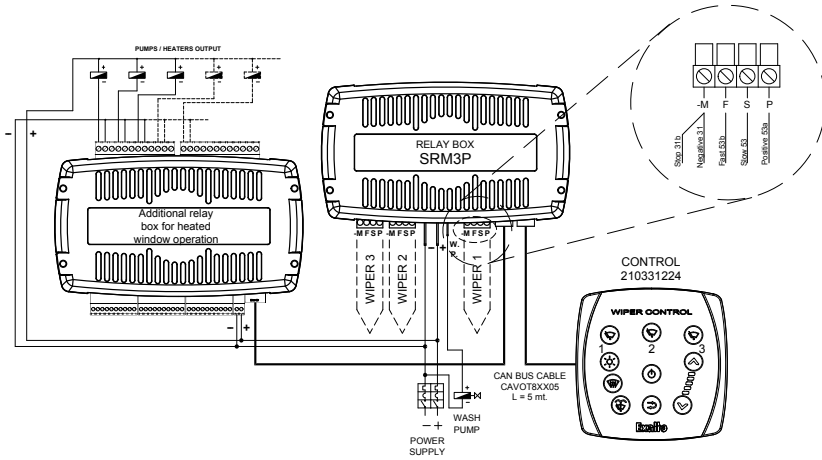


11. System wiring

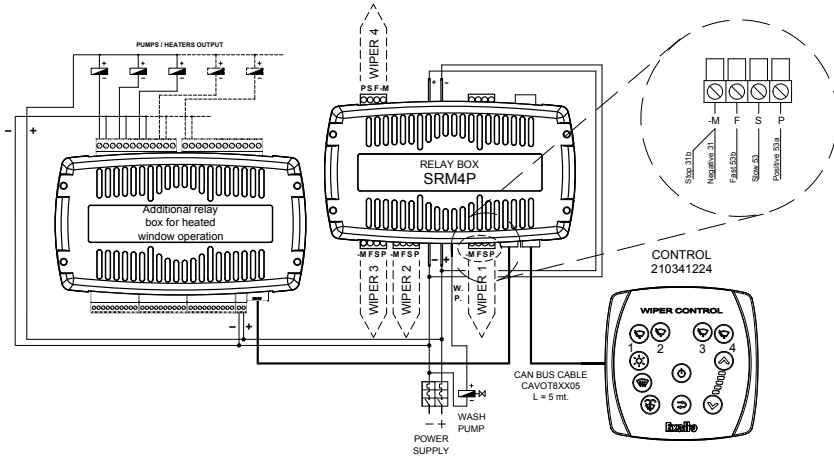
Two wipers



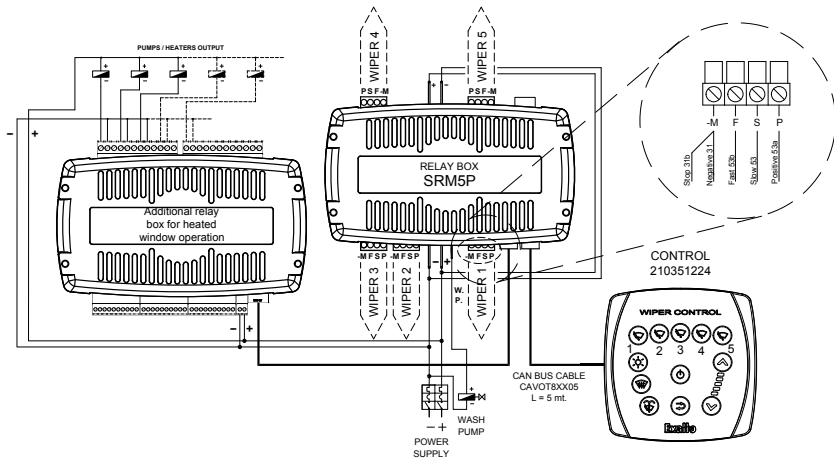
Three wipers



Four wipers



Five wipers



12. Ordering information

Wiper control system (control panel + relay box + cable)	Control panel	Relay box	Cable	No. of wipers
210321224	210321224.P	210321224.R	CAVOT8EX05	2
210331224	210331224.P	210331224.R		3
210341224	210341224.P	210341224.R		4
210351224	210351224.P	210351224.R		5

13. Technical information

EXALTO CT3NX WIPER CONTROL SYSTEM			
Voltage supply	10V to 30V DC		
Internal fuses	12A self-resetting fuse for each motor		
Stand-by current	Less than 70 mA at 10V and less than 40 mA at 30V		
Protections	Polarity inversion		
Motors- output currents	Single or double speed – each motor 12 Amps max.		
Inputs	From 2 to 5 parking switches (open in park position)		
Outputs	From 2 to 5 SLOW speed Imax = 12A From 2 to 5 HIGH speed (if using two speed motors) Imax = 12A 1 wash pump (positive pole) SLOW Imax = 1A		
Functions	3 or 4 intermittent settings 1 or 2 continuous speeds (slow and high speed) Wash / wipe program		
Connections	Relay box SRM2/3P	Relay box SRM4/5P	Control panel CP4PX
	<ul style="list-style-type: none"> • 2 or 3 connectors with 4 poles • no. 2 - male 9,5 mm fast-on • no. 1 – male 6,3 mm fast-on • no. 2 connectors (jack) with 8 poles (CAN BUS network) 	<ul style="list-style-type: none"> • 4 or 5 connectors with 4 poles • no. 4 - male 9,5 mm fast-on • no. 1 – male 6,3 mm fast-on • no. 2 connectors (jack) with 8 poles (CAN BUS network) 	<ul style="list-style-type: none"> • 1 connector with 8 poles (CAN BUS network)
Case	Grey ABS		Plastic case Frontal panel Protection IP65
Dimensions (mm)	L: 191 - H: 40 - D: 109		L:100 - H:105 - D: 72
Working temperature	-25 °C / +50 °C		
Storage temperature	-30 °C / +80 °C		

Declaration Of Conformity

MANUFACTURER'S DECLARATION



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hereby declares that

all the normal precautions and the technical information contained in this manual have to be used for a proper installation and use of the products:

- EXALTO WIPER TECHNOLOGIES B.V. is not responsible of any damage caused by improper use of the products
- warranty will not cover any damage caused by improper use of the products
- the information contained herein is subject to change without notice
- EXALTO shall not be liable for technical or editorial errors or omissions contained herein
- the wiper control product of series CT3N is in conformity at requisition of electro-magnetic compatibility and of security with directives 73/23/EEC, 89/336/EEC, 92/31/EEC and 93/68/EEC and 93/97/EEC and EN 60945 directives

www.exaltowipers.com