

AUTOMATION SYSTEMS

DRIVER FOR SWIFT624 DRIVE

Assembly manual for the installers

SWIFT624-CB





SAFETY OF THE REALIZATION OF THE AUTOMATION SYSTEM

Before commencing the installation carefully read the entire installation and service manual of the product. Non-observance and not-abiding remarks with these symbols can lead to the accident resulting in injury of people or material damage.

The driver ensures correct and safe operation only when installed and used according to the given safety rules. DTM System is not responsible for accidents resulting from incorrect usage or non-professional installation of the devices.

- Do not leave materials from containers in the place accessible for children, they are potentially hazardous;
- This product was designed and produced only to use appropriately as described in this documentation. Exploiting it in other purposes can negatively influence the technical condition and operation of the device and is a potential threat;
- DTM System company is not responsible for effects of the wrong usage, contrary to intended purpose;;
- Do not install the device in surroundings of increased explosion risk or with aggressive air;
- Automatic gates should be compliant with norms as well as with every local applicable regulation, they must meet requirements of EN12604 and EN12605;
- DTM System company is not responsible for effects resulting from faults in the design of driven elements or for their deformations which can appear while using;
- The installation must meet the requirements of EN12453 and EN12445;
- All power sources must be disconnected before beginning any works with the system;
- The electrical installation, to which automation is being connected, must be compliant with applicable standards and be made correctly;
- The installer should deliver the RCD (residual-current device) with the device. It secures the break of the electric circuit of the devices from the power supply. Standards require separating contacts for at least 3 mm in every pole (EN 60335-1). It is advised to use 6A thermal fuse with the RCD of all circuits;
- Secure the power network with RCD of 30mA;
- Safety mechanisms (EN12978 norm) ensure the protection against hazards associated with moving of movable mechanical elements such as crushing, hitching or detachment;
- DTM System company is not responsible for safe and efficient operation of the device in case of applying components not being products offered by DTM System;
- Use only original parts while servicing;
- Do not alter or change the elements of the device;
- Inform the end user of the manner of the service, dealing with breakdown and about threats resulting from using the device;
- Only appropriately trained adults can use the device;
- Controlling devices must be out of the reach of children in order to protect the automation system against accidental starting;
- Only qualified personnel can perform the service;
- During the assembly or repair works, exercise caution, do not wear jewellery, watches or loose clothes;
- After installation it is necessary to check if the device is correctly set and if the controlling device, security system operate correctly;
- The systems protecting against crushing or injury (ex. photocell systems) must work correctly after installing and connecting the drive to the network;
- Radio remote control can be used only when a safe value of used power is adjusted;
- Radio remote control can be used only when observation of the gate move is possible, and no people are in the zone of the move and there are no objects placed;



SAFETY OF USING THE AUTOMATION SYSTEM

Non-observance and not-abiding remarks with these symbols can lead to the accident resulting in injury of people or material damage. It is necessary to read carefully the following warnings. The driver ensures correct and safe operation only when installed and used according to the given safety rules. DTM System is not responsible for accidents resulting from incorrect usage or non-professional installation of the devices.

- During automation system operation both children and adults must keep a safe distance from working automation.
- Only appropriately trained adults can use the automation system.
- Controlling devices must be out of the reach of children in order to protect the automation system against accidental starting.
- Moving between leaves of the gate is permitted only when it is fully open.
- Do not hamper the move of automation elements, remove all obstacles hampering the move.
- Ensure the operation and good visibility of signal lamps and information boards.
- The manual service of the system is possible only when power supply is disconnected.
- In case of the breakdown, disconnect the power supply, and next call the service company which will perform necessary repairs.
- Do not repair or maintain the device yourself. Only qualified personnel can perform the service of the device.
- Please make sure that the persons installing, maintaining or operating gate automation follow these instructions. It is necessary to keep these instructions in such a place that they are easy to find when needed.

WARRANTY

DTM System provides operational and ready to use devices and gives 24 months warranty from the selling date to the end customer. This time is counted according to the producer warranty labels or serial numbers placed on every product. DTM System obliges itself to repair the device for free if during the warranty period there are problems which come because of its fault. Broken device should be supplied on customer's expense to the place of purchase and enclose clear and brief description of the breakage. The cost of mount/dismount is covered by the user. The warranty does not cover any faults caused by improper usage, user self repairs, regulations and adaptations, lightning strikes, voltages or short circuits in the electrical grid. Appropriate legal acts regulate details of the warranty.



1. Used terms

- motor sensitivity adjustment- For security reasons and to protect the structure of the gate against too powerful forces which can lead to its damaging, it is recommended to set the optimum power of the motor.
- manual control - controlling with the use of buttons connected by wires with the motor clamps.
- motor opening time - time required for full opening of the gate powered by the motor.
- motor closing time - time required for full closing of the gate powered by the motor.
- auto-closing - automatic introduction of closing the motor function after the time specified in the program of the driver. Time, after which automatic closing shall start, is counted from the moment of stopping the gate.
- auto-photo closing - automatic introduction of closing the motor function after the time specified in the program of the driver. Time, after which automatic closing shall start, is counted from the moment of breaching and releasing the photocell line.

2. Introduction

This instruction manual is dedicated to SWIFT624- CB driver. The basic use of this driver is controlling SWIFT624 drive, both solo as well as in the MASTER-SLAVE set. This driver enables to connect safety devices such as photocells, pressure edges and it also has encoder system efficiently detecting the overloading caused by the unintentional resistances in the move of the gate. The driver detects and also uses the operation of internal magnetic limit switches of the motor. Moreover, the driver enables the adjustment of the power and has a function of slowing down during start and stop. The driver has a radio receiver connector. TRX series radio card enables remote control of the drive operation and it allows to use an additional, universal relay output.

3. Technical data

Basic parameters

- Control unit power supply 230V AC, 50 Hz
- Operation temperature -20°C /+55°C

Outputs/Inputs

- Engine power supply output 24VDC, max.8A
- Additional output relay, NO type
- Second drive control output yes, SLAVE output
- Engine sensitivity regulation electronic with the use of potentiometer
- Overloading protection programmed in service mode
- Signal lamp output relay 24VDC/1A
- Accessories power supply output 24VDC /1A,
- Photocells power supply/stand-by 24VDC /1A (see pt.4.3.8.)
- Photocells/other protection devices input 1 NC type/ 2 NC 8k2 type
- WICKET mode manual control input NO type
- STOP mode manual control input NC type
- STEP BY STEP mode manual control inputtypu NO (opens-stop-closes-stop) NO type
- Cooperation with limit switches yes
- Opening, closing and soft start/stop phases time regulation yes
- Auto-closing/auto-photo closing time regulation yes / 2s

Controlling part

- BSA input operation mode at opening, stop and closing
- BSC input operation mode at opening, stop and closing
- FT1 input operation mode at opening, stop and closing

Radio part

- Radio card optional TRX series card
- Antenna clamps in motor to connect external aerial

4. Installation

4.1. Important reminder



CAUTION! Electrical installations and automations of the drive must be made by experienced and trained staff under effective laws and regulations.

Dangerous voltage 230V 50Hz appear in the devices, all connections should be made at the voltage switched off. Installer's task is to install the system safely enough to minimize the risk associated with using it. Person who makes the installation without observing the applicable regulations is responsible for the possible damage which can be caused by the device.

4.2. Description of particular elements of the driver

Motherboard of the driver (fig. 1) has power supply unit and an implementation circuit made on specialist transmitters, as well as connectors for connecting supply voltage, motor and protecting, steering and signal elements. It also has microprocessor control unit. Presence of the supply voltage is signalled with the LED diode lighting.



CAUTION!

Switchboard settings incorrectly adjusted to installation conditions can soon lead to its damage and loss of warranty! After the completion of creating the installation and connecting devices stage, it is necessary to programme the switchboard in order to adapt its operation parameters to the current installation, in particular it is necessary to:



- ▶ always set the power of motors
- ▶ always set opening and closing times and the limit of overloading safety barrier
- ▶

Scrupulously follow designed connections. If uncertain, do not try but read relevant detailed technical cards of installed devices. Incorrect connections can cause serious damage in the driver and other devices.

1. Magnetic sensor of limit switch diodes.
2. Magnetic sensor of limit switch connector.
3. Power supply connector 24VDC.
- 4A Clamping connector for connecting the engine 24VDC.
- 4B Clamping connector for connecting the encoder.
5. LD1 programming diode.
6. STOP/PROG button for programming and stop.
7. DIP-SWITCH function choice.
8. Switchboard RESET. Closing of two pins for a moment has the same effect as turning off power supply
9. Input diodes (on- input closed).
10. STEP BY STEP function button, P/P
11. Terminal block for connecting accessories.
12. DIP-SWITCH switching off safety devices.
13. Engine sensitivity regulation trimmer.
14. JP1 jumper 24V FT output as power supplying or stand-by power supplying
15. Spare fuses.
16. Outputs terminal block.
17. Clamps for aerial and radio.
18. TRX radio transmitter connector (radio card available separately).
19. Second button of C2 receiver programming (radio card available separately)
20. First button of C1 receiver P/P programming (radio card available separately)
21. Engine fuse F16A/250V.
22. Support devices and driver power supply fuse F2A/250V.
23. Network power supply fuse T2A/250V.
24. Network power supply terminal block 230VAC.
25. Clamp connection of the driver.



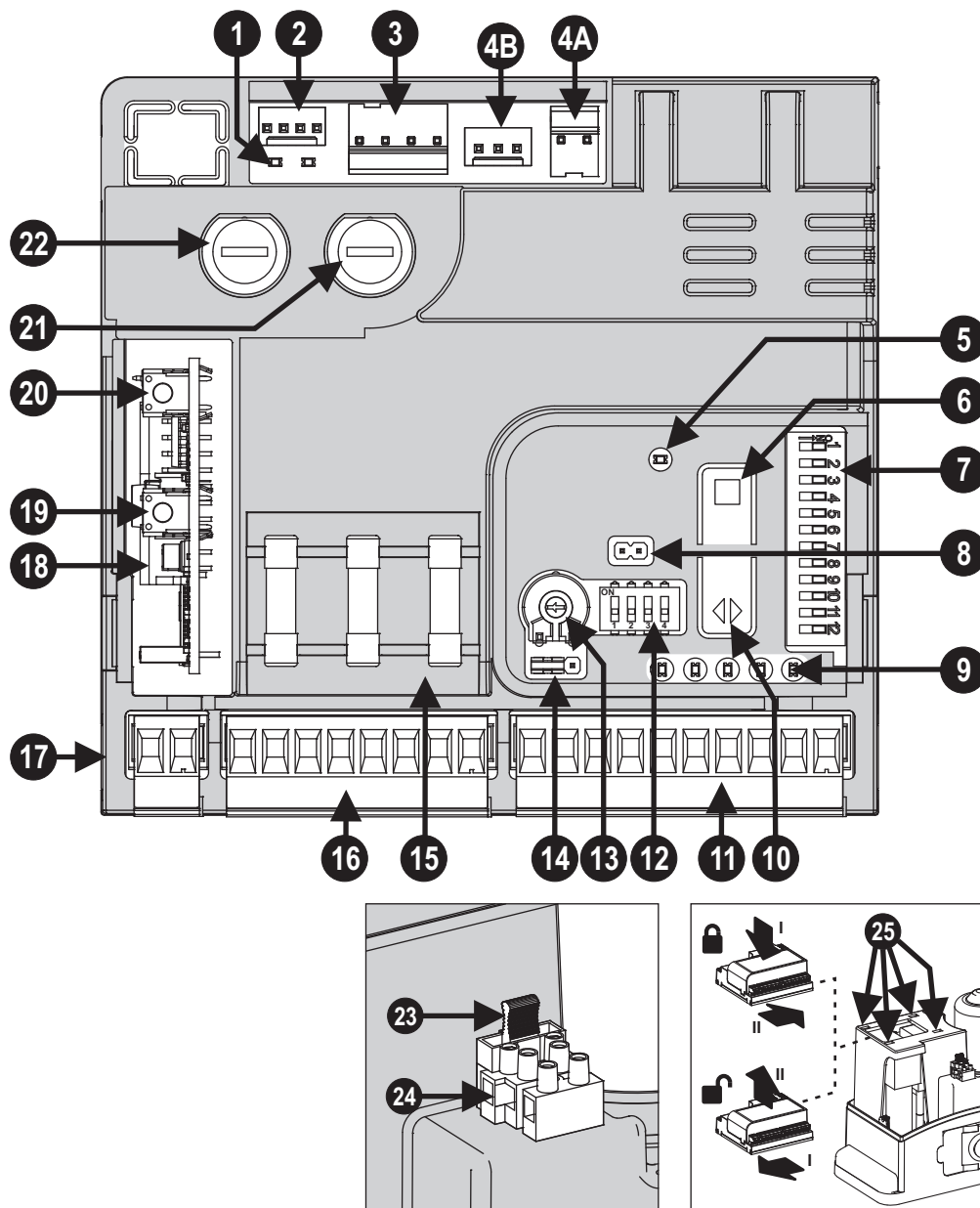


Fig.1. SWIFT624-CB driver motherboard view, with indication of most important elements



STOP BUTTON CAN NOT BE USED AS SAFETY DEVICE, ONLY AS SERVICE FUNCTION TO MAKE INSTALLATION TESTS EASIER.

4.3. SWIFT624-CB driver electric connections description

4.3.1. Connector for connecting engine (4A, fig.1)

Connector to which the 24VDC engine is connected.

4.3.2. Connector for limit switch (2, fig.1)

Clamps are used to connect built-in limit switch. Magnets which cooperate with the switch have different polarization. Before the programming make manual move with gate and make sure that the switch correctly interprets outermost positions of the gate (gate closed - FCC diode turned off, gate opened FCA diode turned off; 16, fig. 1). If the switch operates in opposite way turn the magnets 180 degrees after earlier removing the cases - catch in the top part of the magnet. Magnet with the tag (white stripe) directed toward the switch activates FCC switch (gate closed) and magnet with the tag directed toward the handle activates FCA switch (gate open).

4.3.3. Connector for transformer (3, fig.1)

Clamps are used to connect secondary winding built-in in transformer drive.



4.3.4. Connector for engine encoder (4B, fig.1)

Connector is used to connect built-in encoder in SWIFT624 drive engine.

4.3.5. Clamps for network power supply 230VAC, 50Hz, PE, N (21-23, Fig.3)

Connect the phase (L), neutral wire (N) to proper clamps.

4.3.6. Clamps for powering accessories 24V (3-4, fig.3)

The driver has accessories powering outputs 24VDC of maximum load 1A. Remember that ampacity of+ 24V output and output of photocells transmitters powering (PHOTOTX) is 1A together.

4.3.7. Clamps for connecting photocells/stand-by type power supply 24vft (5-6, Fig.3)

Before making connections decide where the JP1 jumper should be placed. JP1 jumper modifies 24VFT output operation:

- ▶ JP1 in ON position, output is always active and can be used for supplying the supporting devices and/or photocells
- ▶ JP1 set in stand-by position, photocells powered with this output are switched off after the full cycle of gate operation. This configuration reduces energy loss and significantly improves the life of photocell transmitter.

4.3.8. Clamps for connecting signal lamp 24VDC Flash (7-8, Fig.3)

Clamps are used to connect optical signaling of engine operation. Use lamps 24V, max. 1A, without built-in breaker (output has built-in breaker 1s).

4.3.9. Programmable output clamp US1 (9-10, Fig.3)

The driver is equipped with transmitter with NO contacts led out of maximum load capacity 24 V/ 1 which enables the control /signaling according to DIPSWITCH settings (see tab. 2):

- ▶ illumination lamp – output is activated during gate opening and switches off after 3 min. from gate closing
- ▶ gate closed – output is activated during gate opening and switches off after gate closing
- ▶ second channel of the receiver – C2 channel of TRX radio card controls the output
- ▶ signal lamp – output operation according to Fig.2.

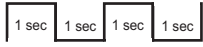
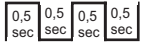
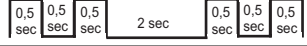

SIGNALING - spia OUTPUT	GATE STATUS
	OPENING
	CLOSING
	AUTO-CLOSING TIME COUNTDOWN
	STOPPED

Fig.2. Ways of gate status signaling with US1 output, see tab.2.

4.3.10. Output clamp for connecting second driver Slave (11, Fig.1) – MASTER-SLAVE function

Output controlling the second drive during operation in the MASTER-SLAVE set, see pt.6.7.

4.3.11. Clamps for connecting safety devices BSC, BSA (13,14, Fig.1)

It is possible to connect safety edge to BSC clamp with output type 8,2kohm NC (Fig.4). It will reverse the direction of gate move after detecting an obstacle while closing.

It is possible to connect safety edge to BSO clamp with output type 8,2kohm NC (Fig.4). It will reverse the direction of gate move after detecting an obstacle while opening.

All unused inputs 8k2 type should be left unconnected and set appropriate DIP-SWITCH ON (tab.1).

4.3.12. Clamps for connecting output of PHOTOCCELL FT photocell (15, Fig.3)

PHOTOCCELL (FT1) input is dedicated for photocell with function of stopping the gate while closing. The input can be blocked with DIP-SWITCH, see tab.1.

4.3.13. Clamp of programmable input JOLLY [JOL] (16, fig.3)

It is possible to connect to the JOLLY clamp (JOL), after its correct configuration (see tab.2) the following:

▶ **time driver – timer function**

Connecting the clock with contact output allows for automatic opening and closing of the gate in specified time periods. Closing the input to COM clamp will cause closing the gate, however opening will cause opening of the gate. Closing and opening time is regulated by attached outside clock with calendar.

▶ **MASTER driver output – MASTER-SLAVE function**

The input is used for controlling the drive configured as SLAVE while operation in MASTER-SLAVE set, see pt.6.7.

▶ **CLOSE momentary switch – dead-man function**

Function requiring the permanent presence of the operator - movement of the gate in direction toward closing is possible only at pressed control button (see tab.2.) P/P input automatically becomes opening control button in dead-man OPEN mode.

▶ **only close momentary switch – 2 buttons function**

Releases closing the gate - movement of the gate in direction of closing after momentary pressing the control button (see tab.2.) P/P input automatically becomes opening control button in only-open mode

4.3.14. Clamp for manual control STOP (17, Fig.3)

Connect momentary (monostable) switch NC type to the STOP (STP) clamp.

4.3.15. Clamp for control of partly-opening – PEDESTRIAN wicket function (18, Fig.3)

Connecting NO type momentary switch to the PED clamp enables partial opening of the gate. “Wicket width” is regulated by operation time set according to pt.6.4.



4.3.16. Clamp for manual control p/p (19, Fig.3)

It is possible to connect NO type momentary switch to the P/P clamp. It will control the automation according to the set operation mode (see tab.2).

All unused inputs NO type should be left not connected, but NC type inputs should be closed with the clamp COM. STOP button can be switched off according to tab.1. Activating of the manual control switch is by its momentary pressing.

4.3.17. ZConnector for TRX radio card and clamps for connecting radio aerial (14, fig.1)

The driver has radio card TRX series connector and aerial input of the radio receiver. Connection and description of the card is in TRX card manual.

Function	n.	Off_On	Description	Remarks
BSC	1		OFF	Safety edge present at closing.
			ON	No safety edge at closing. Terminal 13 not connected.
BSA	2		OFF	Safety edge present at opening.
			ON	No safety edge at closing. Terminal 14 not connected.
FT1	3		OFF	Photocells connected.
			ON	No photocell. Alternatively, connect FT terminal to COM.
STP	4		OFF	STOP button connected.
			ON	No STOP button. Alternatively, connect STOP terminal to COM.

Tab.1. Description of DIP-SWITCH turning off specific safety inputs.

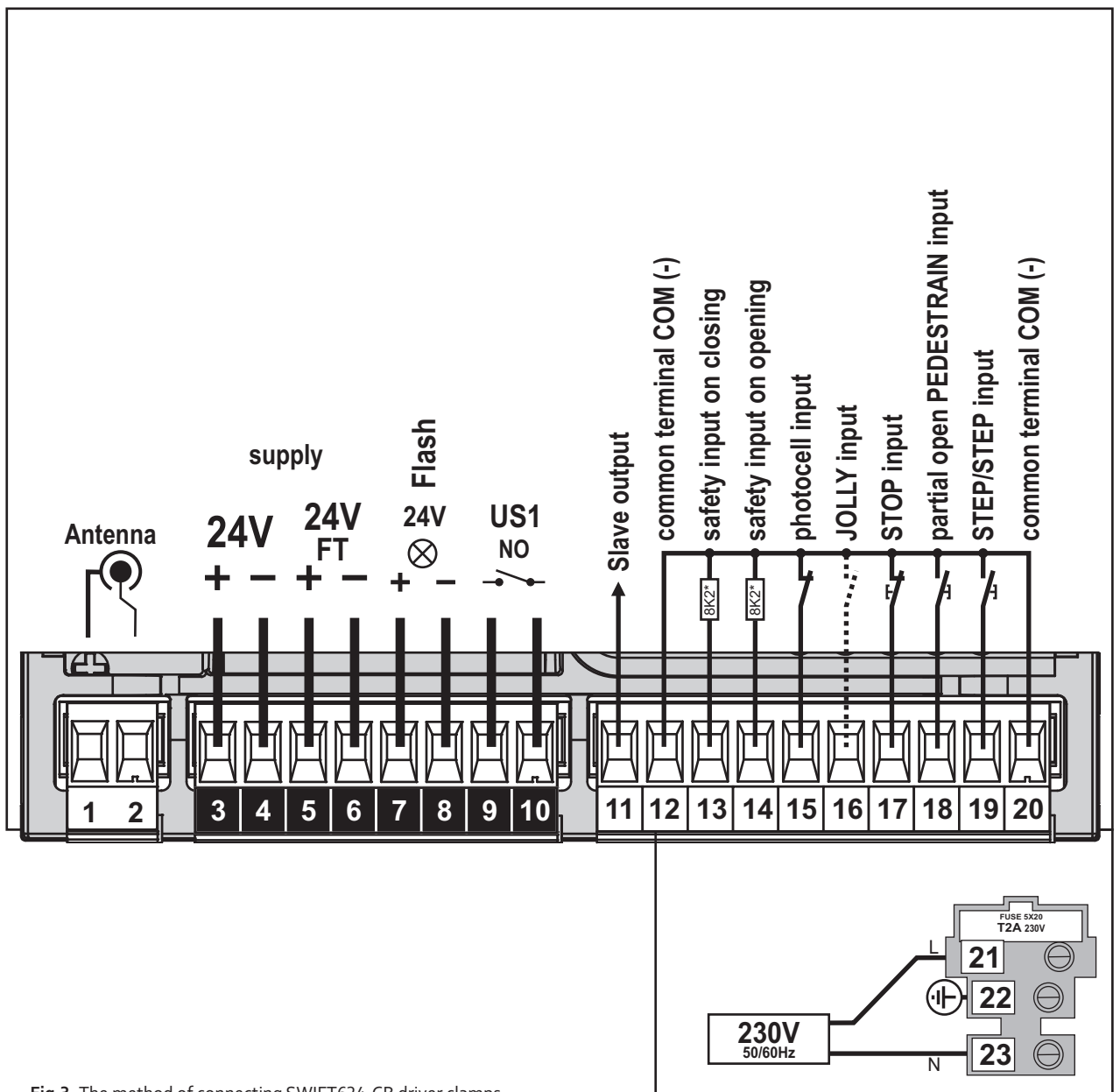


Fig.3. The method of connecting SWIFT624-CB driver clamps.

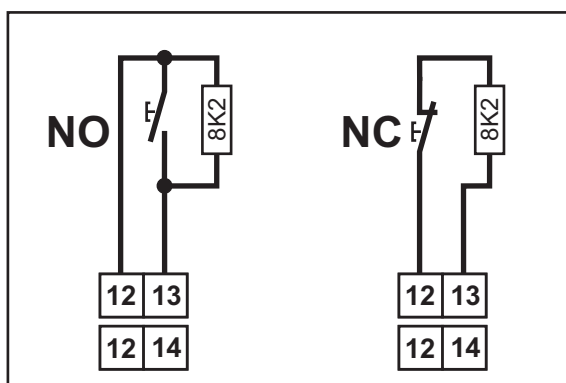


Fig.4. The method of connecting safety edges to SWIFT624-CB driver clamps.

5. Driver operation description

After switching the power supply of the driver, there is an automatic change into OPERATION MODE. In operation mode, the current state of inputs is signaled by LED diodes (16, fig. 1)6.

6. Programming of SWIFT6-CB driver

The programming takes place with the help of the LED L1 diode and PROG/STOP and P/P buttons which are on the driver board (6.10 fig. 1), groups of DIP-SWITCH micro switches (11 fig. 1), TR1 potentiometer (13, fig. 1). The control panel learns the operation times and pause during the procedure of the programming. Programming procedure includes repeated operation with using the P/P button or remote control if such was assigned.

Important remarks before the programming:

- Connect the power supply to the control panel and check if inputs work correctly by inspecting appropriate diodes (diodes of NC contacts must shine).
- Remove all the obstacles from the gate operation zone.
- Diodes of the limit switch must be lighted when the gate is half opened. When the gate is moving to the closed position one of the diodes (ex. LD1) must go out, the second diode (ex. LD3) must go out when the gate reaches opened position.

In order to conduct the successful process of the driver programming keep the following order:

- analyse tables with individual settings of DIP-SWITCHes and to choose appropriate functions, see tab. 1 and 2;
- programme operation time of the gate;
- make possible regulations of the sensitivity of the motor with TR1 potentiometer;
- check the accuracy of operation and repeat the programming if needed.

6.1. SIMPLE mode of learning

It is simple and fast form of setting times of closing, opening, auto-closing. Slowing times before total opening and closing are set automatically. Programme according to following steps (fig. 5):

- manually place the gate in the middle of the way (1, fig.5).
- press PROG/STOP button and hold it pressed for about 3 seconds, until LD1 diode does not light constantly (2, fig.5). **Driver is in the programming mode.**
- Press P/P button. The gate will start moving for few seconds (3, fig.5).
- If the gate moves on the direction towards closing press P/P again (3a, fig.5). If it moves towards opening press PROG/STOP (3b, fig.5)
- the gate reaches closed position (4, fig.5) and it starts opening again automatically (5, fig.5), stopping at the outermost opening position (6, fig.5). **The driver starts remembering the auto-closing time (see tab.1).**
- when the demanded pause time is complete, press P/P button. The motor will start closing (7, fig.5), finishing at the outermost closing position. LD1 diode turns off, the end of programming procedure (8, fig.5)

6.2. EXTENDED mode learning

This procedure requires a little bit more involvement in the process the learning from the installer, than in the case of the simple mode. The installer is able to set additionally the times of slowing down at opening and closing according to personal needs. In order to set different zones of slowing down, act in the following way (fig. 5):

- manually place the gate in the middle of the way (1, fig.5).
- press PROG/STOP button and hold it pressed for about 3 seconds, until LD1 diode does not light constantly (2, fig.5). **Driver is in the programming mode.**
- Press P/P button. The gate will start moving for few seconds (3, fig.5)
- If the gate moves on the direction towards closing press P/P again (3a, fig.5). If it moves towards opening press PROG/STOP (3b, fig.5)
- the gate reaches closed position (4, fig.5) and it starts opening again automatically (5, fig.5).
- while opening, press P/P button in the position of required slowing down (6a, fig.5). The gate stops for a moment and then continues and finishes the opening.
- after stopping at the outermost opening position(6, fig.5) the driver starts remembering the auto-closing time (see tab.1.).
- when the demanded pause time is complete, press P/P button (7, fig.5). The motor will start closing.
- while closing the gate press P/P button in the position of required slowing down moment (8a, fig.5).
- the gate finishes the closing move at the outermost closing position. LD1 diode turns off, the end of programming procedure (8, fig.5).

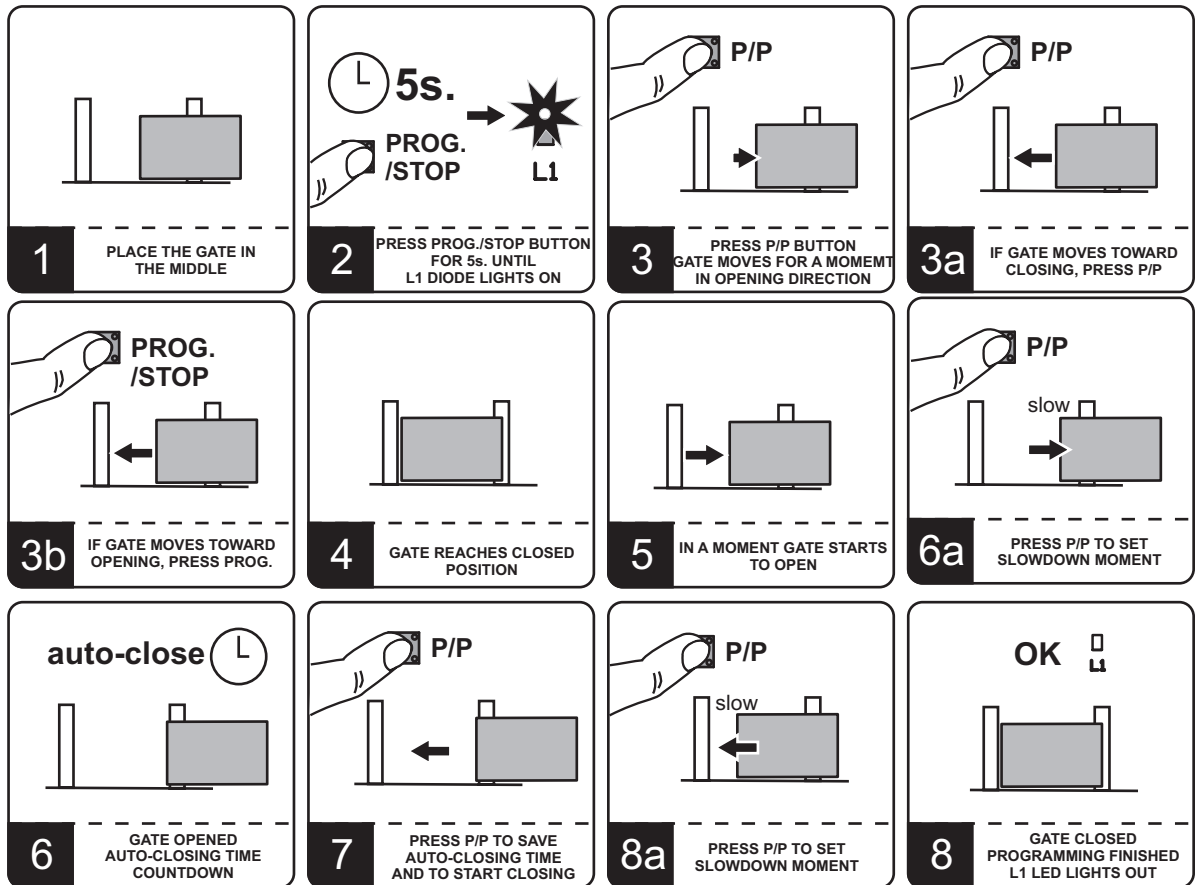


Fig.5. Programming in simple mode (p.1-8 without 6a and 8a) and extended (1-8 with p. 6a, 8a).

6.3. Pause time modification

The procedure must be conducted when the gate is closed. Procedure of the pause time modification set during the programming in the pt. 6.1:

- press PROG./STOP button and hold it until the LD1 diode turns on.
- press PROG./STOP button again, LD1 diode starts blinking and the driver starts remembering pause time.
- press PROG./STOP button again when demanded pause time is complete. LD1 diode turns off. Procedure completed.

6.4. Wicket time programming

Opening the gate for pedestrians (wicket function) is already programmed in the factory settings for about 1-1,5 metres. If this opening requires modification, act in the following way using PEDESTRIAN input (PED, clamp 18 fig. 3):

- With the gate, closed, enter the programming mode by holding the PROG./STOP button up to the moment until a LD1 diode turns on.
- Press PED button, the gate starts opening.
- Next press PED button at the moment when the gate reaches the demanding position of opening for pedestrians.
- The gate stops, next it starts closing. The drives finishes programming mode.



CAUTION! CHANGES OF SETTINGS REQUIRE THE REBOOT OF THE DRIVER BY TURNING THE POWER SUPPLY OFF FOR A MOMENT OR CONDUCTING THE RESTART OF THE PROCESSOR BY CLOSING RESET PINS FOR A MOMENT (8, FIG.1.).

Function	n.	Off On	Description	Remarks
P/P input and C1 channel in radio card	1		open-stop-close	While opening, after pressing P/P button the gate stops. Pressing P/P button again closes the gate. While closing, after pressing P/P button the gate stops. Pressing P/P button again opens the gate
			open-close	While opening, after pressing P/P button the gate stops for a few seconds, later it closes. While closing, after pressing P/P button the gate stops for a few seconds, later it opens.
			always opens	While opening, pressing P/P button does not effect in anything. While pause, pressing P/P button does not effect in anything. While closing, pressing P/P button stops the gate for a few seconds, next the gate opens.
			open-close without reverse while opening	While opening, pressing P/P button does not effect in anything. While closing, pressing P/P button stops the gate for a few seconds, next the gate opens.
Universal input JOLLY	3		timer	Closes the gate when the contact is opened and opens the gate when the contact is closed.
			SLAVE input	Operation with superior drive which is MASTER control drive
			"dead-man" closing	Work with operator, gate movement towards closing only while pressing manual control button. P/P input operates in "dead-man" mode towards opening
			close input	Manual control button closes. P/P manual control button opens.
lamp signal before gate move	5		OFF	Signal lamp operates together with the motor.
			ON	Signal lamp operates 5 seconds before the gate move.
Auto-closing	6		OFF	After total opening, the motor closes only with manual control.
			ON	After total opening, the motor closes the gate automatically after programmed pause time
Speed of the drive	7		very fast	
			fast	
			slow	
			very slow	
Slowing down	9		OFF	Does not slow down in the final phase of the move
			ON	With slowing down function activated, the motor decelerate by half at the end of every move of the gate.
US1 free-potential output	10		illumination lamp	output switched on at the start of gate movement and switched off 3 minutes after finishing the operation – closing the gate
			gate status	output switched on at the start of gate movement and switched off after finishing the operation – closing the gate
			2nd channel of radio receiver	output switched on by second radio channel of TRX radio card
			warning lamp	gate operation signaling see tab.2
Auto-closing after photo	12		OFF	
			ON	Photocells activation reduces pause time to 2 seconds no matter what time was set earlier.

Tab.2. The description of DIP-SWITCHes in SWIFT624-CB driver.

6.5. Power/sensitivity regulation

EN12445 safety norm demands that all automation systems pass crash tests measured with special devices. Conduct crash tests and change the sensitivity of the encoder with the use of the trimmer (13 fig. 1). If settings are insufficient it is possible to install the soft rubber profile on the edge of the gate in order to soften possible impacts into the obstacle. If norm requirements are still not met after the change of sensitivity and installing the rubber profile, install additional safety devices, for example safety edges .

6.7. Drive operation in MASTER-SLAVE set

Pair of opposite gates, master-slave function. It is possible to support two sliding gates working in the opposite direction, working simultaneously:

- Install both motors, performing different settings and programme as for two separate automation systems.
- Choose the main MASTER motor and connect all devices to this motor (control, radio receiver, safety devices, photocells etc.)
- Leave all of factory settings in the SLAVE motor. Connect only installed safety edges.
- Set DIP-SWITCH 3 in ON position and DIP-SWITCH 4 in the OFF position (see tab. 2). RESET switchboard operation by disconnecting the power supply or closing RESET pins for a moment (7 fig. 1).
- Connect Slave input (clamp 11, fig. 3) of MASTER motor to multifunctional JOL (clamp 16, fig. 3) of SLAVE motor. Connect COM clamps (clamp 12 or 20, fig. 3) of both drivers. If connection is correct, the diode corresponding to multifunctional input of SLAVE driver will start blinking.
- Test the system checking different functions of the driver and safety devices of both drives.

7. Acceptance tests

7.1. General remarks

After installing the driver and all cooperating devices, especially safety devices, it is necessary to perform final tests to check the entire automation. These tests should be executed by the competent staff, being aware of existing threats! Final tests are the most important phase at the realization of automation. Individual components such as engine, photocells, etc, can require specific control and for this reason it is recommended to execute checking procedures included in manuals of given components.

- in case of the resignation from the assembly of manual control buttons, it is necessary to make appropriate connection of this input with COM clamp or use the DIP-SWITCH (see tab.1). Disturbing connections will disable any move of the motor.
- in case of the resignation from the assembly of the safety devices it is necessary to make appropriate connection of these inputs with COM clamp or use the DIP-SWITCH (see tab.1).

7.2. Final tests consist of the following stages

7.2.1. Move direction control

Check if at controlling the function OPENING, automation physically moves towards opening. If the movement is directed towards closing, or any movement is missing, inspect connections and/or conduct the procedure of the programming again.

7.2.3. Initial security control

If photocells are installed, it is necessary to manually breach FT1 photocell, at breaching LED FT1 diode in the driver should go out. Do the same for the rest of safety devices if installed (BSC, BSA inputs)

7.2.4. Control of functions controlling the motor move

Check STEP BY STEP function by using the remote control button or manual P/P button. After consecutive impulses from the button a sequence compatible with table 2 settings should take place.


Check STOP function by using manual button. During motor move in direction towards closing or opening, give impulse from STOP button – the drive should stop.

7.2.6. Control of overloading protection

After initiating closing the gate physically block the move of the gate leaf. Do it into the safe way, keeping increased caution. Assess the power needed for such blocking the gate so that the driver automatically stops the move of the gate. Repeat the process in opening direction. If necessary correct the adjusted value of power with TR1 potentiometer (make it smaller if it you had to use too great power to stop the gate, or increase if it was possible to stop the gate too easily). After correcting the setting, conduct the above test again. Remember about the fact that the gate can resist harder to the motor in the winter period, so the adjusted value of the overload must be big enough, not to stop the gate spontaneously. At the same time remember about the safety of users and do not adjust the power parameter to the maximum value. Power necessary for blocking the gate which automatic turning off the motor must be small enough so that the gate does not pose a threat of injury (especially of a child).



If the overload protection does not provide satisfying effects, apply other protection devices (e.g. safety edges, additional photocells, etc.).

EU DECLARATION OF CONFORMITY		No.13/2016	CE																				
Manufacturer DTM System spółka z ograniczoną odpowiedzialnością spółka komandytowa ul.Brzeska 7, PL 85-145 Bydgoszcz																							
Product Electromechanical drive, Type: DTM-SWIFT6, DTM-SWIFT624																							
Product description The product designed for moving sliding gates. Powered by 230VAC, 50Hz.																							
The product is compatible with European Union Directives: 2006/42/UE, 2014/35/UE, 2014/30/UE																							
The product is compatible with harmonised standards: <table><tr><td>EN ISO 12100:2012</td><td>Safety of machinery. General requirements</td></tr><tr><td>EN ISO 13857:2010</td><td>Safety of machinery, safety distances</td></tr><tr><td>EN 60335-1:2012</td><td>Household electrical appliances. General requirements</td></tr><tr><td>EN 60335-2-9:2007</td><td>Household electrical appliances. Detailed requirements</td></tr><tr><td>EN 12453:2002</td><td>Safety in use of power operated door</td></tr><tr><td>EN 55014-1:2012</td><td>Electromagnetic Compatibility – emission</td></tr><tr><td>EN 55014-2:2015-06</td><td>Electromagnetic Compatibility – immunity</td></tr><tr><td>EN 61000-3-2:2014-10</td><td>Electromagnetic Compatibility - levels</td></tr><tr><td>EN 61000-3-3:2013-10</td><td>Electromagnetic Compatibility – levels</td></tr><tr><td>EN 62233:2008</td><td>Measurement methods for electromagnetic fields</td></tr></table>				EN ISO 12100:2012	Safety of machinery. General requirements	EN ISO 13857:2010	Safety of machinery, safety distances	EN 60335-1:2012	Household electrical appliances. General requirements	EN 60335-2-9:2007	Household electrical appliances. Detailed requirements	EN 12453:2002	Safety in use of power operated door	EN 55014-1:2012	Electromagnetic Compatibility – emission	EN 55014-2:2015-06	Electromagnetic Compatibility – immunity	EN 61000-3-2:2014-10	Electromagnetic Compatibility - levels	EN 61000-3-3:2013-10	Electromagnetic Compatibility – levels	EN 62233:2008	Measurement methods for electromagnetic fields
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EN 62233:2008	Measurement methods for electromagnetic fields																						
Conformity assessment procedure EN12445-2002 Gates. Safety in use of power operated doors. Test methods. If the device is installed and maintained according to all the guidelines given by the manufacturer in compliance with this norm then the automation system is compliant with 2006/42/EC Machinery Directive																							
05-10-2016r. Bydgoszcz, Poland		Chairman of the board of general partner Daniel Kujawski 																					



CAUTION!

Electrical or electronic devices cannot be removed with everyday waste. The correct recycling of devices gives the possibility of keeping natural resources of the Earth for a longer time and prevents the degradation of natural environment.





desing and production
of electronic devices
gate automation