

AUTOMATION SYSTEMS

DRIVER FOR SWIFT6 DRIVE

Assembly manual for the installers

SWIFT6-CB

ver. 1.0





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 power adjustment - In most cases the maximum operation power of the motor is not required. 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 motors.
- 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 stopping the gate.
- photo-test - automatic check of the photocells operation just before the gate move start.
- motor overload - increase in the value of the electricity taken by the motor, most often caused by the obstacle appearing on the way of the gate.

2. Introduction

This instruction manual is dedicated to SWIFT6- CB driver. 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.

3. Technical data

Basic parameters

- Power supply 230V AC, 50 Hz
- Operation temperature (min./max.) -20°C / +55°C

Outputs/Inputs

- Motor output (voltage/max. power) 230VAC / 1 x 300W
- Motors power adjustment electronic with the use of potentiometer
- Overloading protection programmed in service mode
- Signal lamp output relay (max. 230VAC/5A)
- Illuminating lamp output relay (max. 230VAC/5A)
- Peripheral power supply output (photocells, etc) 24VAC
- Photocell transmitters power supply output 24VAC (see photo test function)
- Photocell input/ number NC/1+1(DIP-SWITCH 3 and 4, tab.1)
- OPEN mode manual control input NO
- CLOSE mode manual control input NO
- STOP mode manual control input NC
- STEP BY STEP mode manual control input
- (open-stop-close-stop) NO
- 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

- Photo test (photocells testing before move of the gate) yes
- Photocells operation mode stop and continue, move reverse

Radio part

- Radio card optional TRX series card
- Aerial 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. Connector powering the transformer.
2. Transformer.
3. Fuse 0,3A/250V.
4. Terminal block for connecting the secondary winding of the transformer.
5. Terminal block for connecting magnetic limit switch.
6. Programming/gate stopping button PROG/STOP
7. Step by step function button P/P
8. Potentiometer of the engine power regulation.
9. Jumper (for switching off the engine amperometry and soft start).
10. Radio card connector.
11. DIP-SWITCH, see tab.1.
12. FOTO-TEST jumper.
13. Connector for encoder.
14. Terminal block for connecting accessories.
15. RESET pins. Closing these pins for a moment has the same effect as turning off power supply for a moment
16. Input status signal diodes (switched on – input closed)
17. Programming diode (L1)
18. Connector for electro lock.
19. Terminal block for signal and illumination lamps 230VAC.
20. Terminal block for connecting drive power supply 230VAC.
21. Fuse F6, 3A/250V.
22. Terminal block for connecting engine and condenser.



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



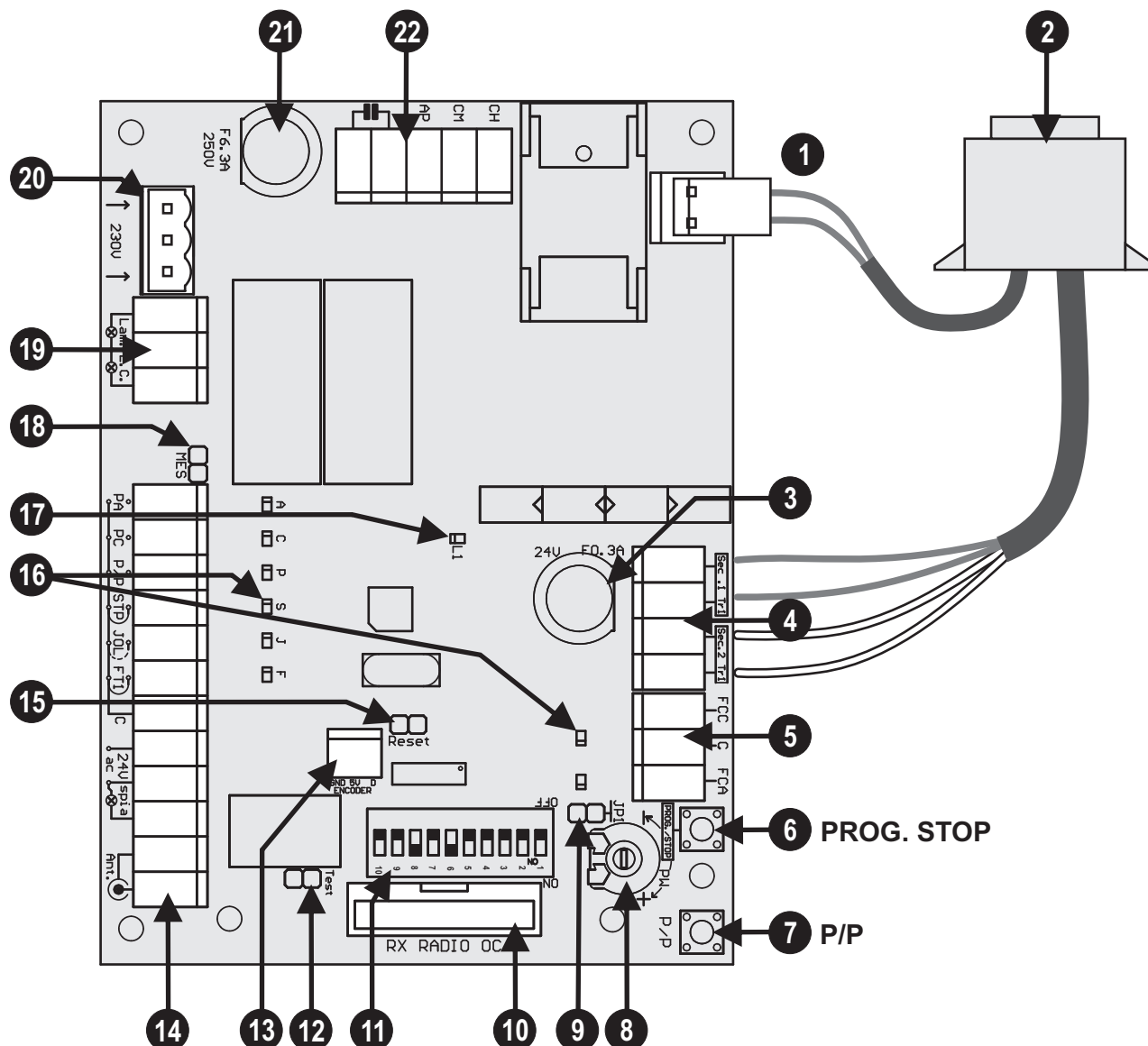


Fig.1. SWIFT6 driver motherboard view, with indication of most important elements

4.3. SWIFT6 driver electric connections description

4.3.1. Network power supply clamps 230VAC, 50Hz L, N, PE (1-2, fig.2)

Connect the phase (L), neutral wire (N) to proper clamps. Protective wire (PE) connect directly to the body of the engine of SWIFT6 drive.

4.3.2. Clamps for connecting motor CH, C, AP, and condenser ... (27-28 and 30-31, fig.2)

Connect the engine of SWIFT6 drive to clamps CH, C, AP. Condenser 16uF/450V must be connected to clamps **CH**. If while programming the gate opens in the wrong way it is necessary to change wires on clamps CH and AP.

4.3.3. Clamps for connecting limit switch FCA, C, FCC (18-20, fig.2)

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).



4.3.4. Clamps for connecting powering transformer S1, S2 (21-24, fig.2)

Clamps are used to connect built-in powering transformer.

4.3.5. Connector for engine encoder ENCODER (13, fig.1)

Connector is used to connect built-in encoder in SWIFT6 drive engine.

4.3.6. Clamps for connecting signal lamp Lam (3-4, fig.2)

Clamps are used to connect optical signaling of engine operation (LAM. and common clamp). Use 230V, max. 5A lamps.

4.3.7. Clamps for connecting signal lamp LC (5-4, fig.2)

Clamps are used to connect illumination (L.C. and common clamp). Output switches on during the start of the engine and is active for 3 min. after total closing of the gate. Use lamps for 230V, max. 5A voltage.

4.3.8. Clamps for powering accessories 24Vac (13-14, fig.2)

The driver has accessories powering outputs 24VAC of maximum load 1A. Remember that ampacity of 24Vac output and output of photocells transmitters powering (spia) is 1A together.

4.3.9. Programmable output spia clamp (15, fig.2)

Depending on the DIP-SWITCH configuration, tab.1, this output can serve one of the following functions:

4powering transmitters of photocells - for photo-test function, the system must have two lines of powering photocells. First connected to clamps 13 and 14 which power the receiver, and second for clamps 15 and 14, powering transmitters (DIP-SWITCH 7 set ON). The driver checks the efficiency of photocells by controlling the reaction of the photocell receiver to the disappearance of the infrared light beam at every start of the gate movement. If everything is correct the engine is started. The error of the test blocks the move in case of detecting the breakdown what is signaled by the switchboard with the signal lamp. Photo test also works for the possible second pair of photocells (JOL input). **Photo test function significantly increases the security level. Activating photo test function – see tab.1.**

▸ signaling opened gate – it is possible to connect outside signaling lights which will signal the phase in which the gate currently is by giving flashes in different frequency: slow flickering - opening, fast flickering - closing, 2 flashes - countdown of closing time (see fig. 2). Output load is 100 m A what is sufficient for controlling electromagnetic transmitters 24VAC.

4.3.10. Clamps for connecting photocells FT1 (11, fig.2)

FOTO1 input (FT1) is dedicated to the photocell of the gate having the function of stopping the gate move while closing. Correctly configured JOLLY input (JOL) can perform the function of stopping the gate during closing and opening, according to tab. 1. Photocell input must be closed for the clamp C (common clamp of inputs) in the configuration of NC contacts.

4.3.11. Clamps for manual control PA, PC, P/P, STP (6-9, fig.2)

It is possible to connect to clamp PA the momentary switch NO type, which, depending on settings, will activate OPENING.

It is possible to connect to clamp PC the momentary switch NO type, which will activate CLOSING.

It is possible to connect to the clamp P/P the momentary switch NO type, which will control the automation according to the set operation mode (see tab. 1).

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

All unused inputs NO type should be left not connected, but NC type inputs should be closed with the clamp C. Activating of the manual control switch is by its momentary pressing.

4.3.12. Clamp of programmable input JOL (10, fig.2)

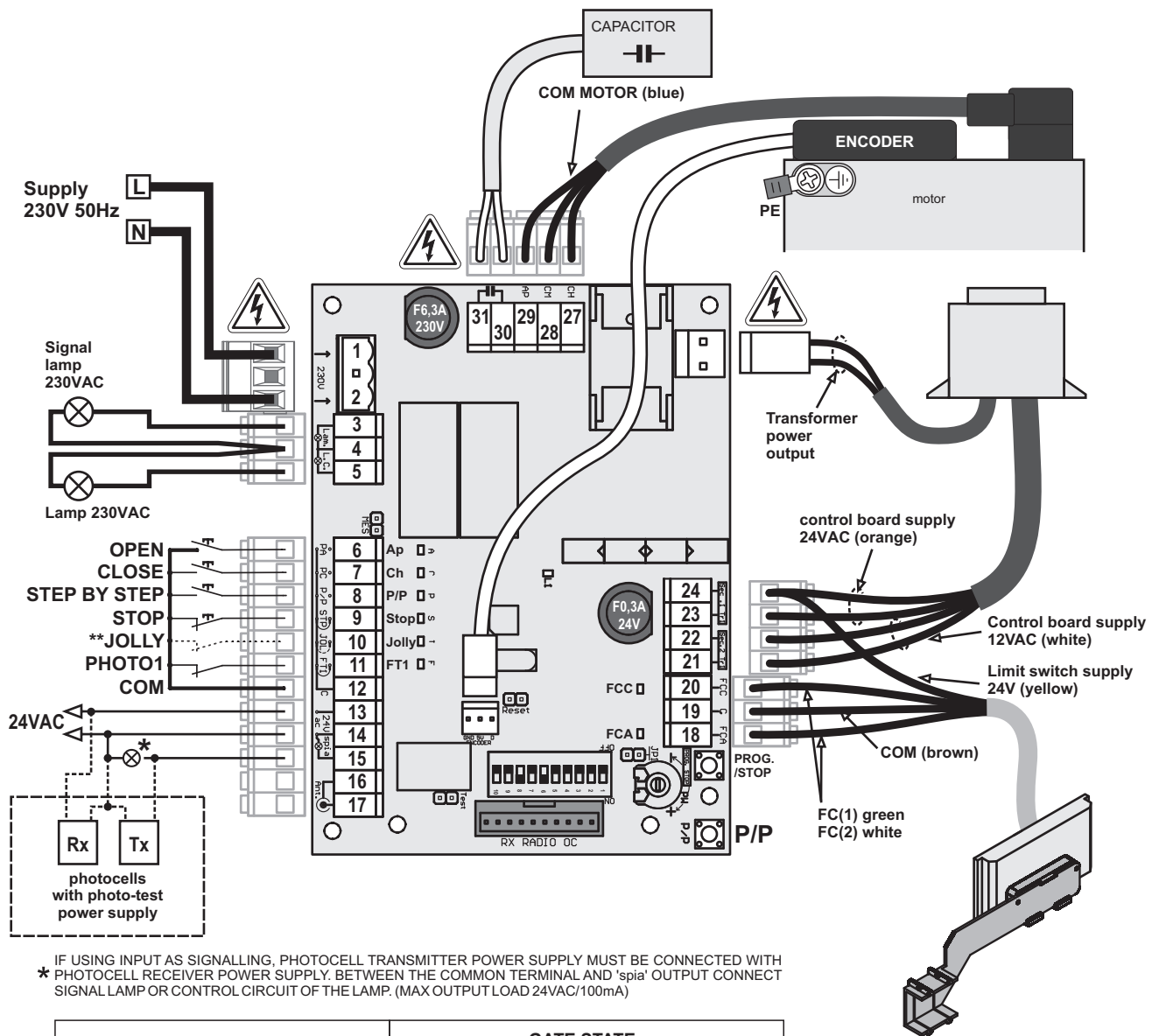
It is possible to connect to the JOLLY clamp (JOL), after its correct configuration (see tab.1) the following:

- **safety edges – function of emergency stop**

NC input – after breaching this input the driver reverses the direction of movement of the gate for a few seconds.

- **time driver – timer function**

Connecting the clock with contact output allows for automatic opening and closing of the gate in specified time periods.



IF USING INPUT AS SIGNALLING, PHOTOCELL TRANSMITTER POWER SUPPLY MUST BE CONNECTED WITH * PHOTOCELL RECEIVER POWER SUPPLY. BETWEEN THE COMMON TERMINAL AND 'spia' OUTPUT CONNECT SIGNAL LAMP OR CONTROL CIRCUIT OF THE LAMP. (MAX OUTPUT LOAD 24VAC/100mA)

SIGNALLING - spia OUTPUT	GATE STATE
1 sec 1 sec 1 sec 1 sec	OPEN
0,5 sec 0,5 sec 0,5 sec 0,5 sec	CLOSE
0,5 sec 0,5 sec 0,5 sec 2 sec 0,5 sec 0,5 sec 0,5 sec	AUTO-CLOSING TIME COUNTDOWN
**	STOPED

INPUT CAN WORK IN ONE OF 4 MODES ACCORDING TO TABLE 1

Fig.2. Connecting SWIFT6-CB clamps.

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.

- second photocell – FOTO 2

This input will be dedicated to the photocell having the function of stopping while closing and opening. Photocell input must be closed to the clamp C (common clamp of inputs) in the configuration of NC contacts.

- partial opening switch - wicket function

Connecting the momentary switch NO type will enable partial opening of the gate. "Width of the wicket" is regulated by operating time set according to pt. 6.4.

4.3.13. Connector 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.

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. 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 (6.7 fig. 1), groups of DIP-SWITCH micro switches (11 fig. 1), JP1 jumper and PW potentiometer (9 and 8 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 the LED FCC diode must go out, the second FCA diode 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;
 - ▶ programme operation time of the gate;
 - ▶ make possible regulations of the traction force with the PW 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. 3):

- ▶ manually place the gate in the middle of the way (1, fig.3).
- ▶ press PROG/STOP button and hold it pressed for about 3 seconds, until L1 diode does not light constantly (2, fig.3). Driver is in the programming mode.
- ▶ Press P/P button. The gate will start moving in direction toward closing (3, fig.3). If the gate moves on the direction towards opening it is necessary to change the direction of engine operation and limit switch operation, see pt. 4.3.2-4.3.3.
- ▶ the gate reaches closed position (4, fig.3) and it starts opening automatically (5, fig.3), stopping at the outermost opening position (6, fig.3). 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.3), finishing at the outermost closing position. L1 diode turns off, the end of programming procedure (8, fig.3)

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. 3):

- ▶ manually place the gate in the middle of the way (1, fig.3).
- ▶ press PROG/STOP button and hold it pressed for about 5 seconds, until L1 diode does not light constantly (2, fig.3). **Driver is in the programming mode.**
 - ▶ Press P/P button. The gate will start moving in direction toward closing (3, fig.3). If the gate moves on the direction towards opening it is necessary to change the direction of engine operation and limit switch operation, see pt. 4.3.2-4.3.3.
 - ▶ the gate reaches closed position (4, fig.3) and it starts opening automatically (5, fig.3).
 - ▶ while opening, before the full opening of the gate press P/P button in the position of required slowing down (6a, fig.3). The gate stops for a moment and then continues and finishes the opening.
 - ▶ after stopping at the outermost opening position **the driver starts remembering the auto-closing time** (6, fig.3).
 - ▶ when the demanded pause time is complete, press P/P button. The motor will start closing (7, fig.3).

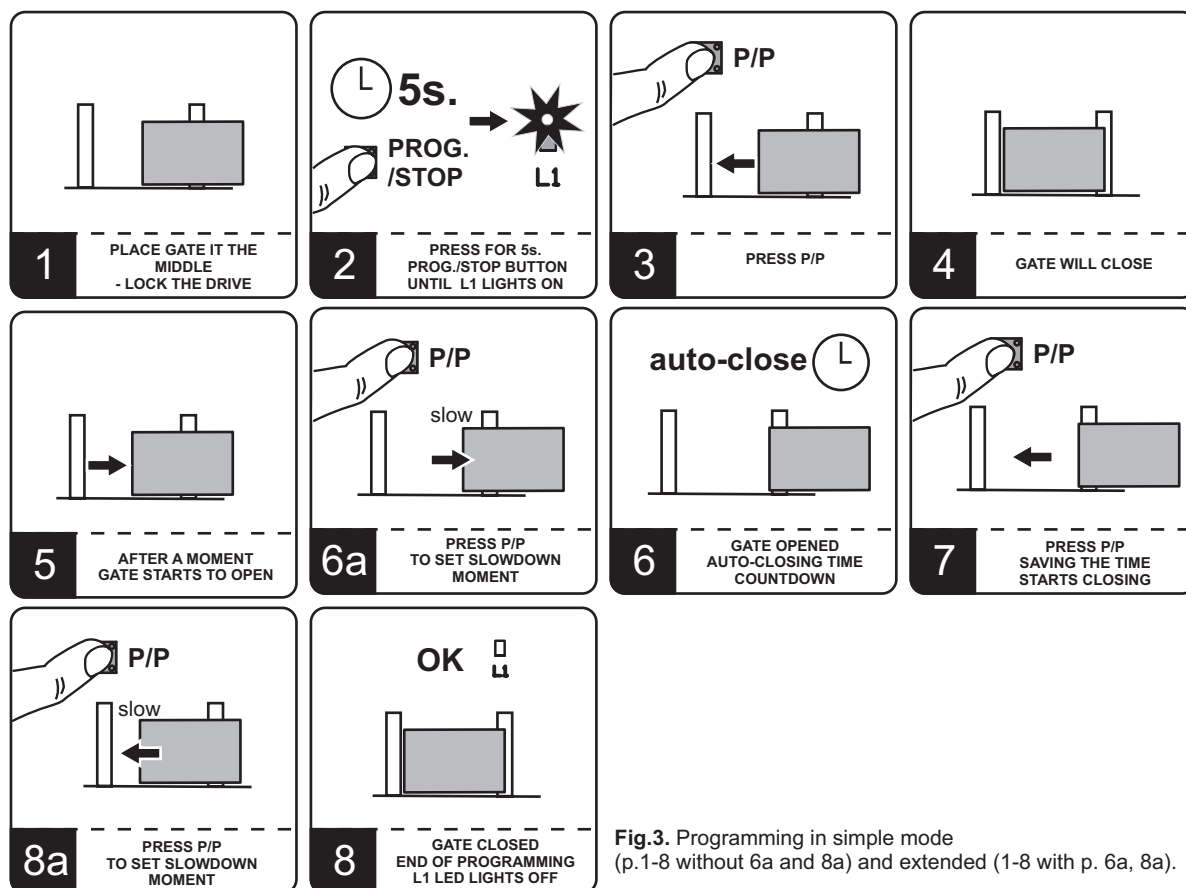


Fig.3. Programming in simple mode (p.1-8 without 6a and 8a) and extended (1-8 with p. 6a, 8a).

- ▶ while closing the gate press P/P button in the position of required slowing down (8a, fig.3).
- ▶ the gate finishes the closing move at the outermost closing position. L1 diode turns off, the end of programming procedure (8, fig.3).

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 L1 diode turns on.
- ▶ press PROG/STOP button again, L1 diode starts blinking and the driver starts remembering pause time.
- ▶ press PROG/STOP button again when demanded pause time is complete. L1 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 JOLLY input (clamp 10 fig. 2):

- ▶ With the gate, closed, enter the programming mode by holding the PROG./STOP button up to the moment until a L1 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 goes out from the programming mode.

6.5. Power 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 (8 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.

6.6. Soft start

Soft start function determines the gradual movement from the start without shocks on the gate. The function can be omitted by installing the JP1 jumper (9, fig. 1).



By installing JP1 jumper the engine power is set as maximum.

6.7. Change of gate slowing down settings

6.7.1. Change of passage mode

If a jump of the gate is noticed at the change from the standard speed to the lower in the case of slowing down function activation, the mode of the passage can be changed in the following manner:

- ▶ disconnect the power supply;
- ▶ press P/P, PROG./STOP buttons on the driver at the same time;
- ▶ connect the power supply, holding the buttons pressed;
- ▶ L1 diode blinks shortly, giving the signal that the passage was set.

To return to the initial configuration it is necessary to repeat the above procedure.

6.7.2. Change of the slowing down type

The driver allows to choose one of two types of slowing down: standard slowing down, increased slowing down for heavier automation.

Procedure of slowing down type change :

- ▶ disconnect the driver power supply;
- ▶ connect the power supply again holding pressed STOP/PROG buttons
- ▶ L1 diode turns on after 3 seconds
- ▶ still holding STOP/PROG buttons set DIP-SWITCH 9 from the OFF position to the ON (if DIP-SWITCH is set ON, switch it on the OFF position and next ON)
- ▶ L1 diode starts pulsing
- ▶ fast pulsing corresponds to increased slowing down setting
- ▶ slow pulsing corresponds to standard slowing down setting (factory setting)
- ▶ after choosing the type of slowing down, release STOP/PROG buttons. Control unit remembers the choice and goes into normal operation mode.

6.8. Control unit auto-test

The breakdown of engine control can threaten the functioning of the automation system and the safety of the users, therefore the driver checks the correct operation of the engine control circuit before every move of the gate.

In case of any irregularities, control unit stops the operation signaling it by slow flashing of the diode.

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.

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 pause, pressing P/P button closes the gate While closing, pressing P/P button stops the gate for a few seconds, next the gate opens.
Universal input JOLLY	3		safety edge	Activation of safety edge changes the direction for a few seconds. After safety edge activation the driver stops, repeated closing is cancelled NC type input.
			timer	Closes the gate when the contact is opened and opens the gate when the contact is closed.
			photocell input	While opening and closing, photocell activation stops the gate (STOP). Restart of the gate is needed. Next move is always in direction towards opening. NC type output.
			wicket input	Gate partly opened for the programmed period of time (see "programming opening for pedestrians"). NC type input.
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.
Photo - test	7		OFF	
			ON	See pt 4.3.9.
Brake	8		OFF	
			ON	Brake is used for of overcoming the inertia of heavy automation systems. When the brake is turned on it is activated at the end of every move of the gate.
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.
Auto-closing after photo	10		OFF	
			ON	Photocells activation reduces pause time to 2 seconds no matter what time was set earlier.

Tab.1. The description of DIP-SWITCHes in SWIFT6-CB driver.



CAUTION! SETTINGS CHANGE REQUIRE DRIVE RESTART BY SWITCHING MOTOR SUPPLY OFF FOR A MOMENT OR BY SHORT CIRCUIT OF RESET PINS (15, fig.1).

- ▶ in case of the resignation from the assembly of manual control buttons, remember about bridging "STOP" clamps. The lack of the bridge will make any move of motors impossible.
- ▶ in case of the resignation from the assembly of the photocell, bridge PHOTO1 and/or PHOTO2 inputs with the COM clamp

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 FOTO1 photocell, at breaching LED FT1 diode in the driver should go out. Do the same for FOTO2 photocell if it is installed (JOL LED diode). Firstly FOTO2 Photocell must be activated, see tab. 1. In the sleep mode, when optical barriers are not breached, 2 red LED diodes should light (2 first from the right side)

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 1 settings should take place.
- ▶ Check CLOSING function by using remote control button manual PC button. With the gate entirely or partly opened, give impulse from CLOSING button - the motor should make a move towards closing
- ▶ Sprawdzić funkcję ZAMYKANIE używając przycisku pilota lub przycisku ręcznego PC. Przy całkowicie lub częściowo otwartej bramie, podać impuls z przycisku ZAMYKANIE - siłownik powinien wykonać ruch w kierunku zamykania.
- ▶ 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.

7.2.5. 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 PW 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.).



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.

EU DECLARATION OF CONFORMITY		No.13/2016																					
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 61000-3-3:2013-10	Electromagnetic Compatibility – levels																						
EN 62233:2008	Measurement methods for electromagnetic fields																						
Conformity assessment procedure EN 12445-2002 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 																					



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of electronic devices
gate automation