VOZROZHDENIE LLC

OKPD 27.90.40.190

ТУ 27.90.40-001-33120038-2018

APPROVED BY

B3P.248100.000LU

GATE
MODELK-14

B3P.248100.000IM
INSTALLATION MANUAL

28 sheets

2020

CONTENTS

This Installation Manual (IM) applies to Oxgard gate K-14 and its modifications (hereinafter referred to as the product). Product firmware version:

baby_v2 – universal board version for 8-wire step motor for glass flap with a thickness of 8 mm - 10 mm, and tube flap.
For glass flap – length 60 mm, position J3 open.
For tube flap 600, 900, 1000, 1200, position J3 open.
For glass flap – length 800, 900, 1000, 1200 mm, position J3 closed.
Glass flap 1200 can only be 8 mm.

IM defines rules and a procedure for installation and commissioning of the product.

Before installing the product, please read the Operation Manual B3P.248100.000 (OM) as well.

Due to constant work on improving the product, changes to its design may be made, which are not represented in this IM revision.

The following abbreviations are used in this document:

OM — Operation Manual;

IM — Installation Manual;

PSU - power supply unit;

CP - control panel;

ACS - access control system;

SFAS - security and fire alarm system;

NC - normally closed connection;

NO - normally open connection.

1 GENERAL PROVISIONS

For general safety when assembling and installing the product, take into account all the recommendations and instructions contained herein.

Before starting installation work, power off the product completely.

The gate can be done in two variants:

- with a glass flap

- with a metallic tube flap

DO NOT:

INSTALL THE POWER SUPPLY MODULE INSIDE THE PRODUCT BODY AS IT MAY RESULT IN ELECTRIC SHOCK TO PERSONS.

INSTALL THE PRODUCT OUTSIDE DRY AND HEATED ROOMS.

OBSTRUCT OR ACCELERATE THE PRODUCT FLAP MOVEMENT WHEN TURNING ON (OFF) THE ANTI-PANIC – AP MODE.

APPLY PASTES AND LIQUIDS CHEMICALLY AGGRESSIVE TO MATERIALS OF THE HOUSING WHEN CLEANING THE PRODUCT.

2 SAFETY PRECAUTIONS

Installation should be carried out with observance of "Regulations for Operation of Consumer Electrical Installations" and "Safety regulations for Operation of Consumer Electrical Installations".

The product shall only be installed by qualified personnel trained in handling of electrical devices and instructed on safety precautions when handling the electrical installations with voltages of up to 1000V.

 **ATTENTION:** FAILURE TO COMPLY WITH THE SAFETY REQUIREMENTS SPECIFIED IN THIS SECTION CAN RESULT IN DEATH AND DAMAGE TO HEALTH, COMPLETE OR PARTIAL LOSS OF PERFORMANCE OF THE PRODUCT AND/OR AUXILIARY EQUIPMENT.

 **ATTENTION:** MANUFACTURER WAIVES ANY RESPONSIBILITY FOR DEATH AND DAMAGE TO HEALTH, COMPLETE OR PARTIAL LOSS OF PERFORMANCE OF THE PRODUCT AND/OR AUXILIARY EQUIPMENT IF USER FAILS TO COMPLY WITH THE SAFETY REQUIREMENTS SPECIFIED IN THIS SECTION, AND ALSO VOIDS THE PRODUCT WARRANTY.

3 PREPARING THE PRODUCT FOR INSTALLATION

3.1 Procedure for transporting the product to the installation site

The product in the original package can be transported without range limitation by air, closed road and rail transport provided it is protected against direct exposure to precipitation and dust.

In order to avoid moisture condensation after transportation at subzero temperatures, the product shall be pre held in a room with normal climatic conditions for 12 hours.

Loading and unloading operations should be carried out in compliance with safety regulations.

3.2 Rules for unpacking the product

3.2.1 Perform visual inspection of the packaging. There should not be visible damage on the package.

3.2.2 Open the transportation box, unpack and check completeness of the product:

1) Gate;
2) CP with cable.

3.3 Rules for visual inspection of the product

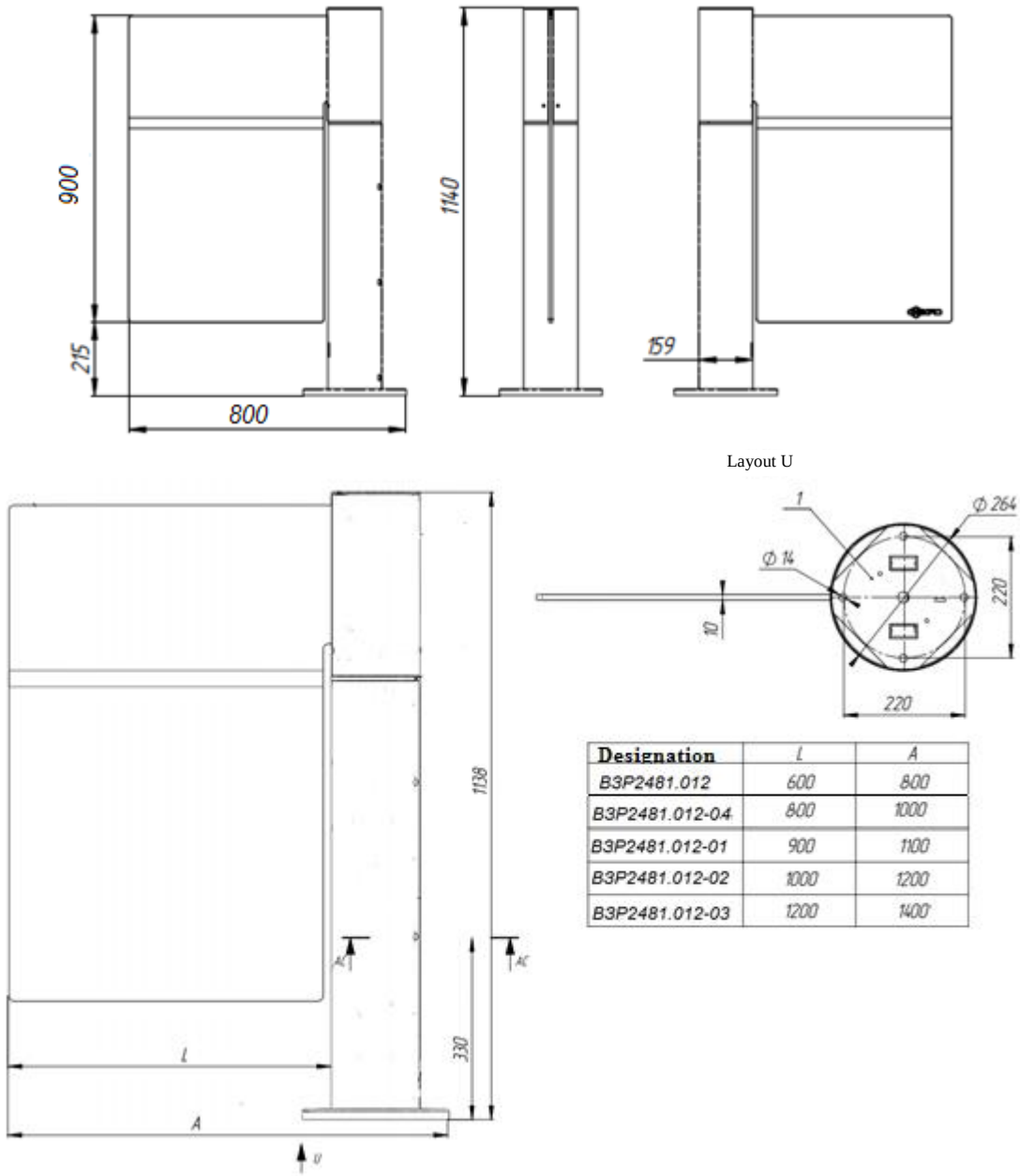
3.3.1 Check completeness of the product.

Completeness shall be checked according to the Logbook B3P.248100.000 (LB).

3.3.2 Visually inspect the product. There shall not be visible damage on the product.

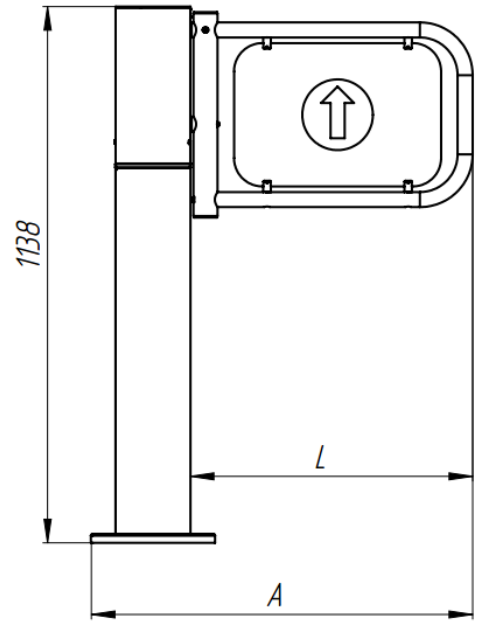
3.3.3 If any damage is found, prepare a Claim Report.

3.3.4 Figure 1 – overall product dimensions



Designation	L	A
B3P2481.012	600	800
B3P2481.012-04	800	1000
B3P2481.012-01	900	1100
B3P2481.012-02	1000	1200
B3P2481.012-03	1200	1400

Figure 1 – Overall product dimensions for a gate with glass.



Designation	L, mm	A, mm
B3P 2481.100	600	810
B3P 2481.100-01	900	1110
B3P 2481.100-02	1000	1210
B3P 2481.100-03	1200	1410

Figure 2 – Overall product dimensions for a gate with a metallic tube flap.

3.4 Product installation site requirements

ATTENTION: TO AVOID SWING AND/OR OVERTURN DURING OPERATION, INSTALL THE PRODUCT SECURELY. IN CASE OF PRODUCT INSTALLATION ON LOW STRENGTH FLOOR, TAKE MEASURES FOR INSTALLATION SITE FLOOR STRENGTHENING.

Figure 3 –when installing the turnstile, it is necessary to consider the possible free travel of the arm (it makes 2.5 degrees on each side in STOP mode).

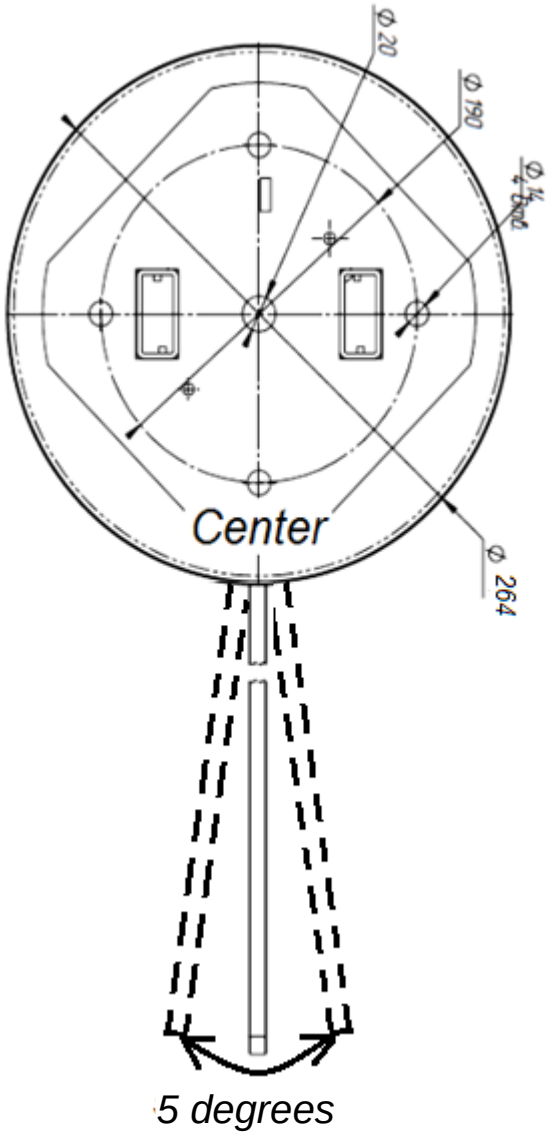


Figure 3 – Available free travel of gate in "STOP" mode

ATTENTION: ORGANIZE PASSAGE AREAS IN ORDER TO EXCLUDE UNAUTHORIZED ENTRANCE.

3.4.1 Figure 4 –product passage zone arrangement and guidelines on product orientation.

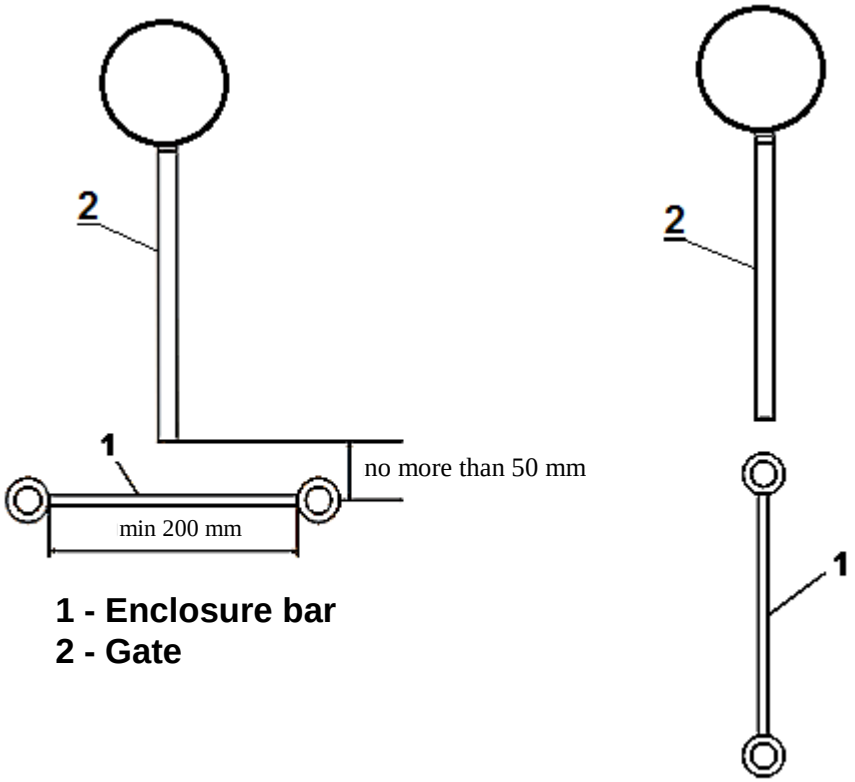


Figure 4 – Gate passage zone arrangement

4 PRODUCT INSTALLATION AND DISMANTLING

4.1 Equipment required

Equipment required for the product installation:

1) electric hammer drill

2) 16 mm carbide drill bit for drilling anchor holes in the floor (we recommend SORMAT M10 M10-16 anchor);

3) S6 hollow head screw hex wrench;

4) cross-point screwdriver;

5) plumb or level;

6) steel shims for product leveling;

4.2 Product installation

ATTENTION: THOROUGHLY READ THIS SECTION OF THE MANUAL BEFORE INSTALLING THE PRODUCT

ATTENTION: IT IS RECOMMENDED TO MARK OUT LOCATING HOLES AGAINST HOLES IN GATE POST BASE FLANGE WITH MOUNTED FLAP.

4.2.1 Prepare a level ground at the product installation site.

4.2.2 Prepare a chase or cable conduit going from the site to the place of installation of the PSU, and, where necessary, to the ACS and SFAS connection point.

4.2.3 Attach gate flap to post using set screws. Make sure that gate flap is securely attached to post.

4.2.4 Figure 5 – mark out and drill 4 holes of 16mm in diameter in the floor for the gate post anchors.

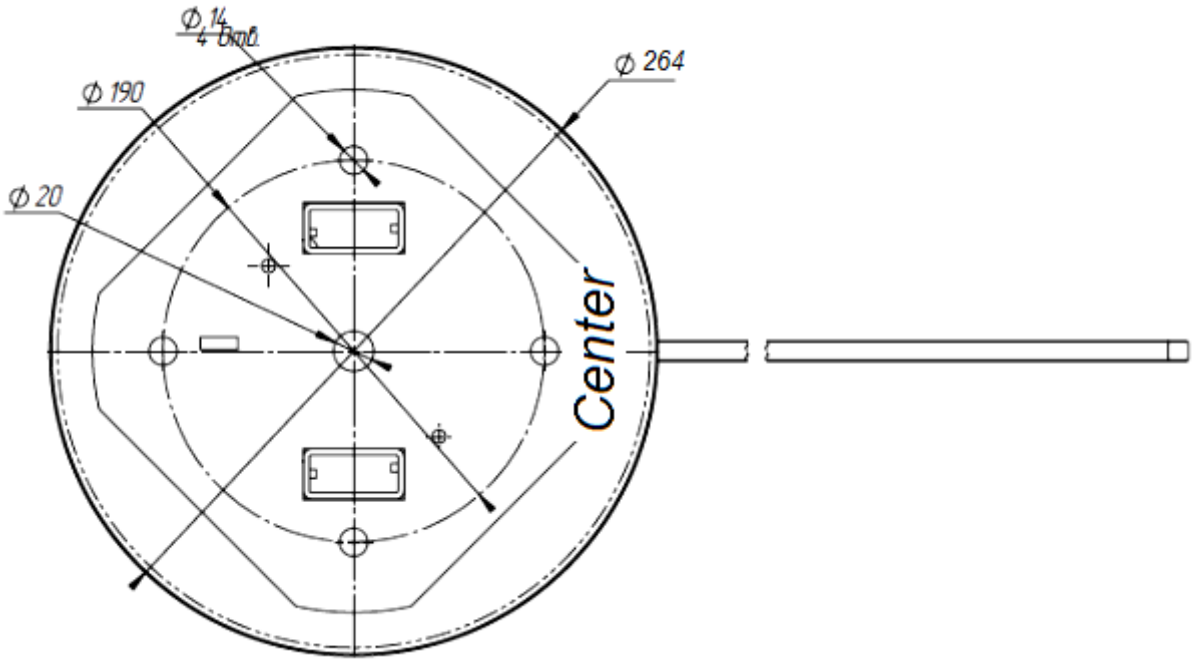


Figure 5 – Installation site mounting dimensions

The depth of holes for embedded parts shall exceed the anchor length by 5mm. Insert anchors into the holes.

4.2.5 Lay the PU connection cable, PSU cable and, if provided, the ACS and OPS cables in the cable conduit or chase.

4.2.6 Install the gate post to the prepared site.

4.2.7 Route the cables from the CP, PSU and, if necessary, ACS and SFAS cables into the gate stand.

Lead the cables through the 20mm diameter hole. Secure the cables with cable ties.

4.2.8 Align the gate post holes with the floor anchors.

4.2.9 Check that installed gate is vertical in 2 planes, use steel shims of required thickness for the correct gate installation, where necessary.

4.2.10 Fasten gate base flange with 4 M10 screws by screwing these into the proper anchors using the S6 wrench.

4.3 Product dismantling

4.3.1 When sending the product for calibration or repair, dismantle product as follows:

1) turn product power off;
2) disconnect the product from power supply;
3) disconnect the product cable part from auxiliary cables;
4) dismantle the product from the installation site.

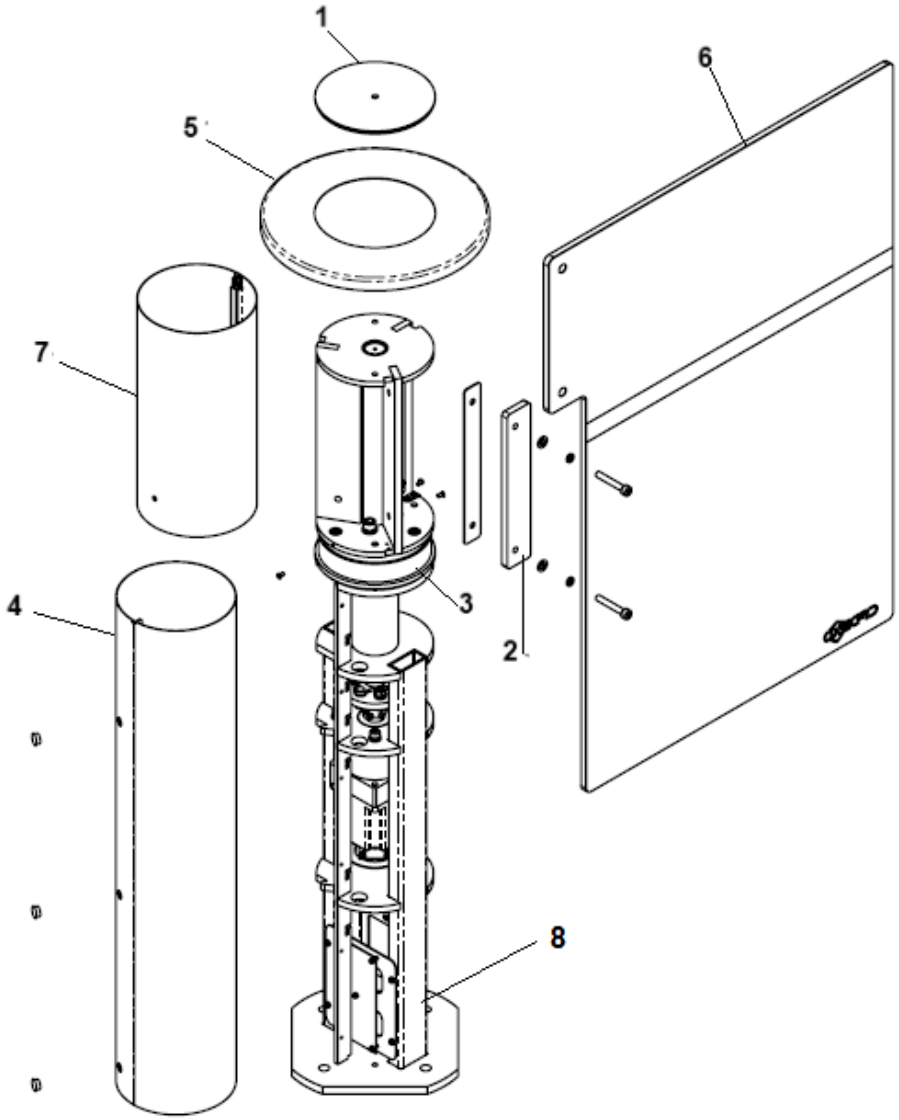
4.3.2 Before packing, clean the product from dust and dirt.

4.3.3 Put the product in a packing box.

5 CONNECTING AND SETTING THE PRODUCT

Figure 6 – component placement on gate stand.

Connect the PSU, CP, and ACS using the motherboard.



1 – Cover; 2 – Insert; 3 – Indication panel; 4 – Body enclosure; 5 – Cup; 6 – Glass; 7 – Upper enclosure; 8 – Motherboard location

Figure 6 – Component placement on gate stand

Figure 7 – Appearance of the cross-board and layout of connectors for connecting PSU, CP, ACS, and SFAS.

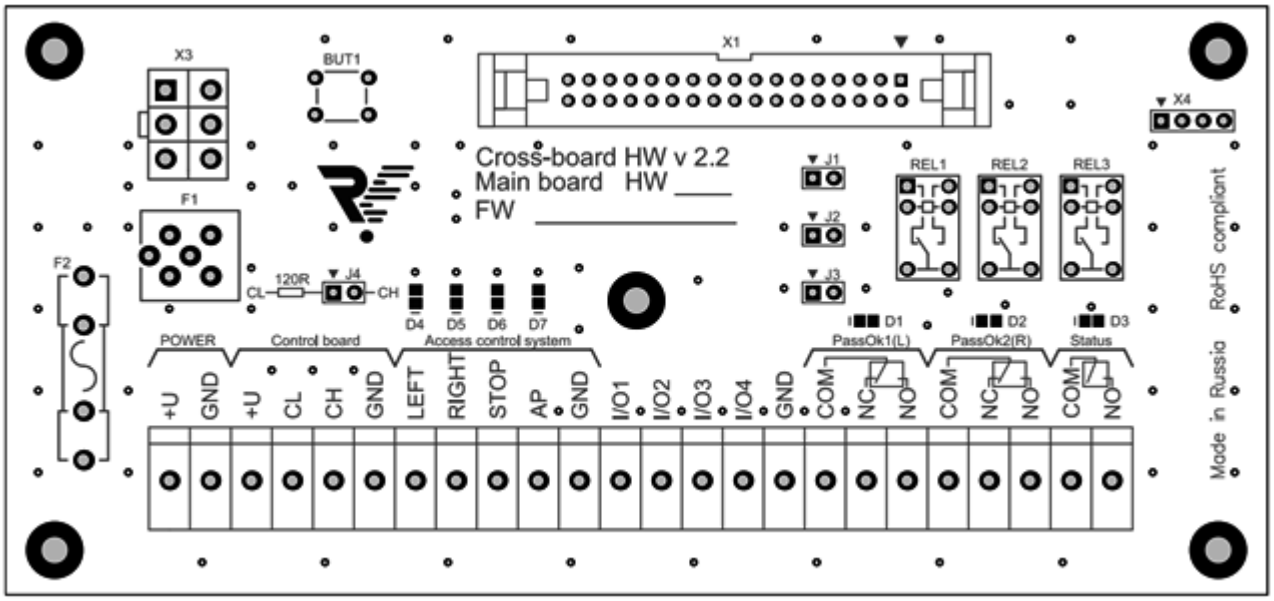


Figure 7 – Appearance of the cross-board

Table 1 shows operation modes of the product for different jumper positions.

Table 1 – Product operation mode

Jumper position	Product operation mode
J1 is removed	Pulse control mode (cl. 5.3)
J1 is present	Potential control mode (cl. 5.3)
J2 is present	Flap “ANTI-PANIC” mode opening direction is leftward/rightward
J2 is removed	Flap opening direction in the “ANTI-PANIC”* mode changes to opposite in relation to the mode with present.
J3 is removed	For 600 mm length glass flap. For tube flap 600, 900, 1000, 1200.
J3 is present	For 800, 900, 1000, 1200 mm length glass flap

* **ATTENTION:** THE “ANTI-PANIC” MODE IS RESET AUTOMATICALLY 20 MINUTES AFTER TURNING ON.

– J4 jumper is used for normal operation of CAN 2.0 bus. J4 shall be removed with panel connected, and open with panel disconnected.

5.1 Power connection

DO NOT:

USE POWER SUPPLIES WITH OUTPUT CURRENT OF LESS THAN 10 A. CONNECT THE PRODUCT USING POWER CABLE SECTION LESS THAN 1.5 MM^2 WHEN LENGTH OF THE SUPPLY CABLE IS MORE THAN 10 M – IT IS RECOMMENDED TO USE CABLE WITH CROSS-SECTION OF 2.5 MM^2.

ATTENTION: IT IS NOT RECOMMENDED TO INSTALL POWER SUPPLY UNIT AT A DISTANCE OF MORE THAN 10 M FROM THE PRODUCT.

The product is powered by 24VDC power supply.

It should be taken into account that voltage drop increases when the supply cable length is increased (operating voltage range is detailed in the Operation Manual B3P.248100.000 (OM)).

Install the PSU in the place providing easy operator access. Connect PSU cable to POWER contact group on the cross-board.

Connect (+) and (-) terminals of PSU to (24V) and (GND) terminals respectively. Make sure that the cable is securely connected.

5.2 Connecting the control panel

Connect CP to *Control Board* contact group on the cross-board. Identification of contacts: 24 V, CL, CH, GND.

Connecting the CP should be made according to contact identifications given in Table 2.

Table 2 – Identifications of terminals for connecting PU

Identification of terminals	Wire color
24V	Red
CL	Yellow
CH	Green
GND	Blue

ATTENTION

DO NOT: CONNECT THE CONTROL PANEL USING A PHONE CABLE WITH LENGTH OVER 5 M.

WHEN CONNECTING THE PANEL, OPEN J4 ON THE MOTHERBOARD.

5.3 Access control and management system connection (optional)

The ACS controller should be connected to the group of the following contacts:

Access Control System on the motherboard.

ATTENTION: THE PRODUCT IS NOT INTENDED FOR PERSONNEL TIME TRACKING.

Identification of contacts: LEFT, RIGHT, STOP, AP, GND. Terminal assignment is shown in Table 3.

Table 3 – Assignment of ACS terminals

Identification of terminals	**Contact assignment**
LEFT, RIGHT	one-time passage left/ right (lower priority)
STOP	passage forbidden ("Stop" mode) (medium priority)
AP	in case of closure of AP and GND contacts, the gate opens to the side determined by J2 (table 1), and stays open for 20 minutes, then closes.
GND	common contact

Inputs for ACS connection differ in priority:

In pulse mode (J1 – open)

1) . If the STOP input is closed to the GND contact, and LEFT, RIGHT, AP commands are issued, the gate goes to the respective mode, and then to the STOP mode immediately

2) If the AP input is closed to the GND contact, and LEFT, RIGHT commands are issued, the gate does not respond to these commands, and if the STOP command is issued, the gate goes to the STOP mode, and then to the AP mode immediately

In pulse mode (J1 – closed)

1) . If the STOP input is closed to the GND contact, and LEFT, RIGHT, AP commands are issued, the gate goes to the respective mode, and maintains it for the hold time from ACS. If the AP command is issued, the gate opens for a short time to the side set by the J2 jumper, and then goes to the STOP mode immediately

2) If the AP input is closed to the GND contact, and LEFT, RIGHT commands are issued, the gate does not respond to these commands, and if the STOP command is issued, the gate goes to the STOP mode, and then to the AP mode immediately

ATTENTION: The AP mode is reset by reloading the gate, or issuing the STOP command from the ACS, or from the control panel.

ATTENTION:

Response to commands from the control panel in the pulse mode (J1-open) if AP command issued from the ACS.

- when the STOP command is issued from the control panel, the AP mode is reset, and is turned back on immediately.

- when LEFT, RIGHT commands are issued from the control panel, the gate does not respond to them

Response to commands from the control panel in the pulse mode if STOP command issued from the ACS.

- when the AP command is issued from the control panel, the gate goes to the AP mode, and then immediately returns to the STOP mode.

- when LEFT, RIGHT commands are issued from the control panel, the gate executes these commands, and then returns to the STOP mode.

Response to commands from the control panel in the potential mode (J1-closed), if AP command is issued from the ACS

- when the STOP command is issued from the control panel, the AP mode is reset.

- when LEFT, RIGHT commands are issued from the control panel, the gate does not respond to them

Response to commands from the control panel in the potential mode if STOP command issued from the ACS.

- when the AP command is issued from the control panel, the gate goes to the AP mode, and then immediately returns to the STOP mode.

- when LEFT, RIGHT commands are issued from the control panel, the gate executes these commands, and returns to the STOP mode after execution.

LEFT and RIGHT inputs can operate in both potential and pulse modes (tripping in respond to closing to GND contact). Pulse mode is set by default.

The AP input works as follows: in case of closure of AP and GND contacts, the gate opens to the side determined by J2 position (table 1), and stays open for 20 minutes, then goes to the “Stop” mode. If the AP command from the ACS is not reset after 20 minutes, the gate goes to the “Stop” mode, and then to the “Anti-panic” mode for 20 more minutes.

To switch to potential operation mode, it is necessary to insert a jumper (J1). In this case, left/right passage mode is only enabled as long as the control signal is delivered to LEFT/RIGHT inputs

Two dry contact relay outputs for ACS are installed on the cross-board - Pass Ok1 and Pass Ok2. NO and COMM – normally open connection, NC and COMM – normally closed connection.

Actuation of one of the contact groups indicates passage opening to the respective side and gate return to the initial closed state (PassOk1 – right, PassOk2 – left).

The passage signal actuates when the gate returns from the open state to the closed state, at 30 degrees of turn.

D1 and D2 LEDs signal the relay condition PassOk1 – to the right and PassOk2 – to the left.

The motherboard has a dry contact relay output for ACS - Status. NO and COMM - normally open connection, its contacts are closed when the product switches to AP mode and D3 diode lights up.

There are also LEDs on the motherboard which indicate closing of corresponding inputs to GND terminal:

1) D4 indicates that input signal arrived to LEFT input;
2) D5 indicates that input signal arrived to RIGHT input;
3) D6 indicates that input signal arrived to STOP input;
4) D7 indicates that input signal arrived to AP input;

6 COMPREHENSIVE INSPECTION

6.1 Visual inspection and verification of the product readiness for use

6.1.1 Check the fastening of product parts and components.

6.1.2 Check that all cables are securely attached.

6.1.3 Turn the product on and perform functional check by carrying out several test passes.

6.1.4 If no any abnormal noises and operational disturbances are detected, the product is ready for operation.

7 ACCEPTANCE OF THE INSTALLED PRODUCT

Acceptance of the installed product is carried out as follows:

1) representative of installation contractor demonstrates security of product installation;

2) notes on the product installation are made in the "Product Service Record" Section of the Logbook B3P.248100.000 (LB);

3) the "Installation Information" Section of the product Logbook B3P.248100.000 (LB) is filled in;

4) the Commissioning Certificate is issued.

APPENDIX B — Power supply units

Use of recommended power supply units and tested controllers guarantees a smooth operation of the product.

Recommended power supply unit:

– MEAN WELL DR-240 -24;(10 A)

Vozrozhdenie LLC

192289 Saint-Petersburg

66, Sofiiskaya str.

Telephone/Fax +7 (812) 366 15 94

www.oxgard.com

info@oxgard.com

ВОЗРОЖДЕНИЕ
ЗАВОД МЕТАЛЛОИЗДЕЛИЙ