

INPUT, OUTPUT, INPUT-OUTPUT, MANIPULATING AND CONTROL DEVICES

Technical description

Table of contents

1	Introduction.....	4
2	KEYBOARD WITH TRACKBALL TYPES TBK-1378-01, TBK-1378-03, TBK-1368-02, TBK-1368-04.....	5
3	KEYBOARD WITH TRACKBALL TYPES TBK-1488-02, TBK-1498-03, TBK-1588-02, TBK-1598-03.....	7
4	KEYBOARD WITH TRACKBALL TYPES TBK-1379-01, TBK-1379-03, TBK-1369-02, TBK-1369-04.....	9
5	KEYBOARD WITH TRACKBALL TYPES TBK-2378-01, TBK-2378-03, TBK-2368-02, TBK-2368-04.....	11
6	KEYBOARD WITH TRACKBALL TYPES TBK-2379-01, TBK-2379-03, TBK-2369-02, TBK-2369-04.....	13
7	KEYBOARD WITH TRACKBALL TYPES TBK-1478-01, TBK-1478-03, TBK-1468-02, TBK-1468-04.....	15
8	KEYBOARD WITH TRACKBALL TYPES TBK-1578-01, TBK-1578-03, TBK-1568-02, TBK-1568-04.....	17
9	KEYBOARD WITH TRACKBALL TYPES TBK-1579-01, TBK-1579-03, TBK-1569-02, TBK-1569-04.....	19
10	KEYBOARD WITH TOUCHPAD TYPES TCK-1378-01, TCK-1378-03, TCK-1368-02, TCK-1368-04	21
11	KEYBOARD WITH TOUCHPAD TYPES TCK-1379-01, TCK-1379-03, TCK-1369-02, TCK-1369-04	23
12	KEYBOARD WITH TOUCHPAD TYPES TCK-2378-01, TCK-2378-03, TCK-2368-02, TCK-2368-04	25
13	KEYBOARD WITH TOUCHPAD TYPES TCK-2379-01, TCK-2379-03, TCK-2369-02, TCK-2369-04	27
14	KEYBOARD WITH TOUCHPAD TYPES TCK-1478-01, TCK-1478-03, TCK-1468-02, TCK-1468-04	29
15	KEYBOARD WITH TOUCHPAD TYPES TCK-1578-01, TCK-1578-03, TCK-1568-02, TCK-1568-04	31
16	KEYBOARD WITH TOUCHPAD TYPES TCK-1579-01, TCK-1579-03, TCK-1569-02, TCK-1569-04	33
17	KEYBOARD TYPES K-1378-01, K-1378-03, K-1368-02, K-1368-04	35

18	KEYBOARD TYPES K-1578-01, K-1578-03, K-1568-02, K-1568-04	37
19	KEYBOARD TYPES K-1478-01, K-1478-03, K-1468-02, K-1468-04	39
20	KEYBOARD TYPES K-1379-01, K-1379-03, K-1369-02, K-1369-04	41
21	KEYBOARD TYPES K-1579-01, K-1579-03, K-1569-02, K-1569-04	43
22	KEYBOARD TYPES K-2379-01, K-2379-03, K-2369-02, K-2369-04	45
23	TRACKBALL MANIPULATOR TYPES TBM-2378-01, TBM-2378-03, TBM-2368-02, TBM-2368-04.....	47
24	TRACKBALL MANIPULATOR TYPES TBM-2379-01, TBM-2379-03, TBM-2369-02, TBM-2369-04.....	49
25	TRACKBALL MANIPULATOR TYPES TBM-1478-01, TBM-1478-03, TBM-1468-02, TBM-1468-04.....	51
26	TRACKBALL MANIPULATOR TYPES TBM-23678	53
27	TOUCHPAD MANIPULATOR TYPES TCM-2379-01, TCM-2379-03, TCM-2369-02, TCM-2369-04.....	55
28	COMPUTER MOUSE TYPES M-1568-02, M-1568-04.....	57

INTRODUCTION

This document describes input, output, input-output, manipulating and control devices.

This document contains information on the design, operation principle, and technical specifications of the products produced by NPK MSA LLC.

Input, output, input-output, manipulating and control devices are intended to operate as a main component of personal computer, and to ensure control and enter text data while working with operating system installed on the computer.

KEYBOARD WITH TRACKBALL TYPES TBK-1378-01, TBK-1378-03, TBK-1368-02, TBK-1368-04



Certificates



Description

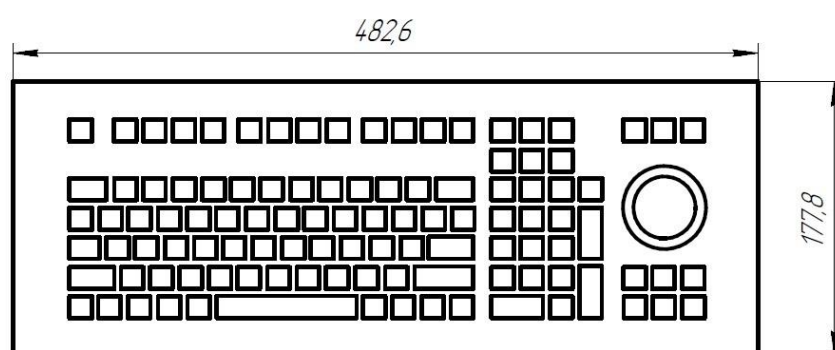
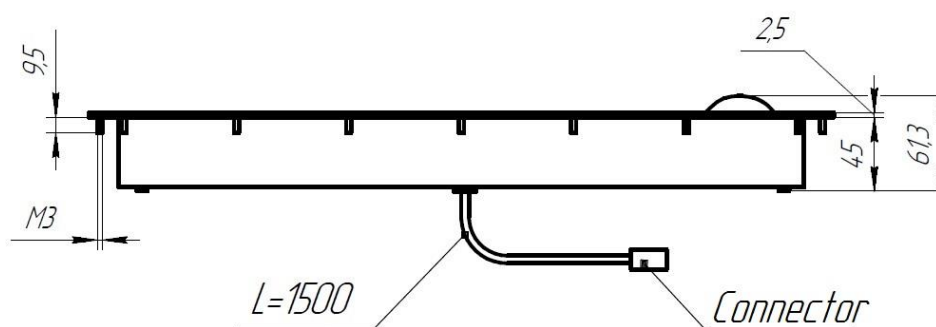
Keyboard with trackball consists of a set of keys placed in particular order that allows a person to input information, and a trackball, a rotating ball in the fixed housing that allows a person to position a cursor on the screen.

Certified as a part of Marine panel personal computer types MVPC-xx04, MVPC-xx05, MVPC-xx06, MVPC-xx07.

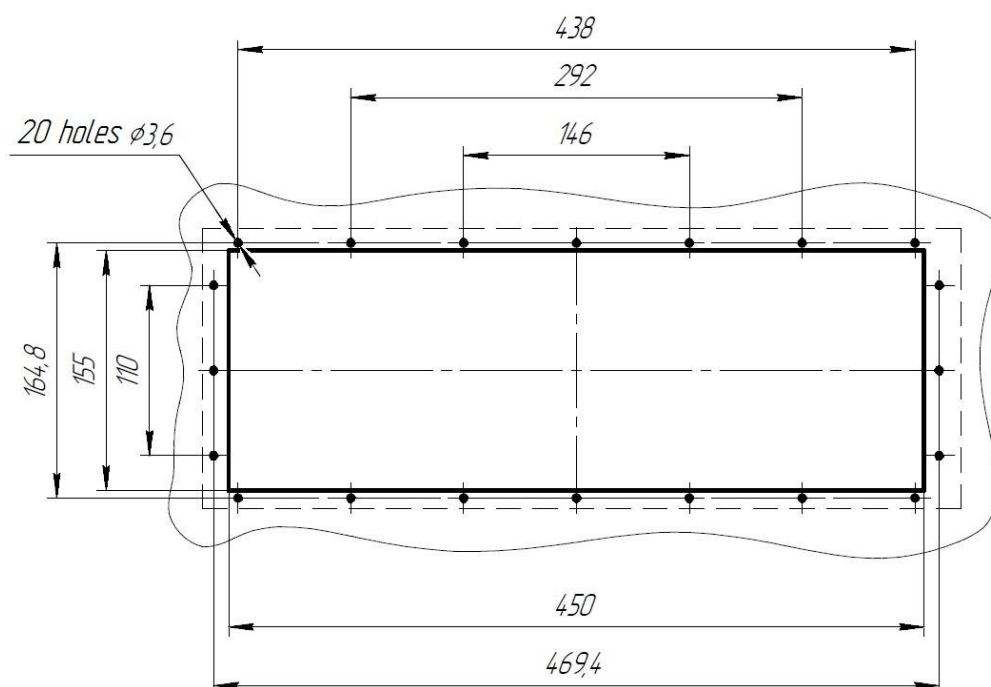
Technical specifications

Parameter	TBK-1368-02	TBK-1368-04	TBK-1378-01	TBK-1378-03
Type of connectors ¹⁾	standard	protective	protective	standard
Interface	USB		PS/2	
Number of keyboard keys, pcs.	105			
Number of trackball keys, pcs.	2			
Key life, mln. clicks	min. 3			
Key travel, mm	0.3			
Keystroke force, N	2.6			
Layout	English or Russian			
Type of trackball	optical			
Ball diameter, mm	50			
Rotation force, g	80			
Trackball life, mln. rotations	6			
Mounting	panel			
Protection degree	IP54 (front panel)			
Operating temperature, °C	-15 to +55			
Limiting temperature, °C	-60 to +70			
Weight, kg	1.6			
Housing material	aluminum			
Ball material	phenol resin			
¹⁾ Applied protective connectors: 2PMT14KIIIH4III1B1B for USB interface, PC7TB for PS/2 interface.				

Dimensional and installation specifications



Mounting cutout



KEYBOARD WITH TRACKBALL TYPES TBK-1488-02, TBK-1498-03, TBK-1588-02, TBK-1598-03

Certificates

Description

Keyboard with trackball consists of a set of keys placed in particular order that allows a person to input information, and a trackball, a rotating ball in the fixed housing that allows a person to position a cursor on the screen.

Certified as a part of Marine panel personal computer types MVPC-xx04, MVPC-xx05, MVPC-xx06, MVPC-xx07.

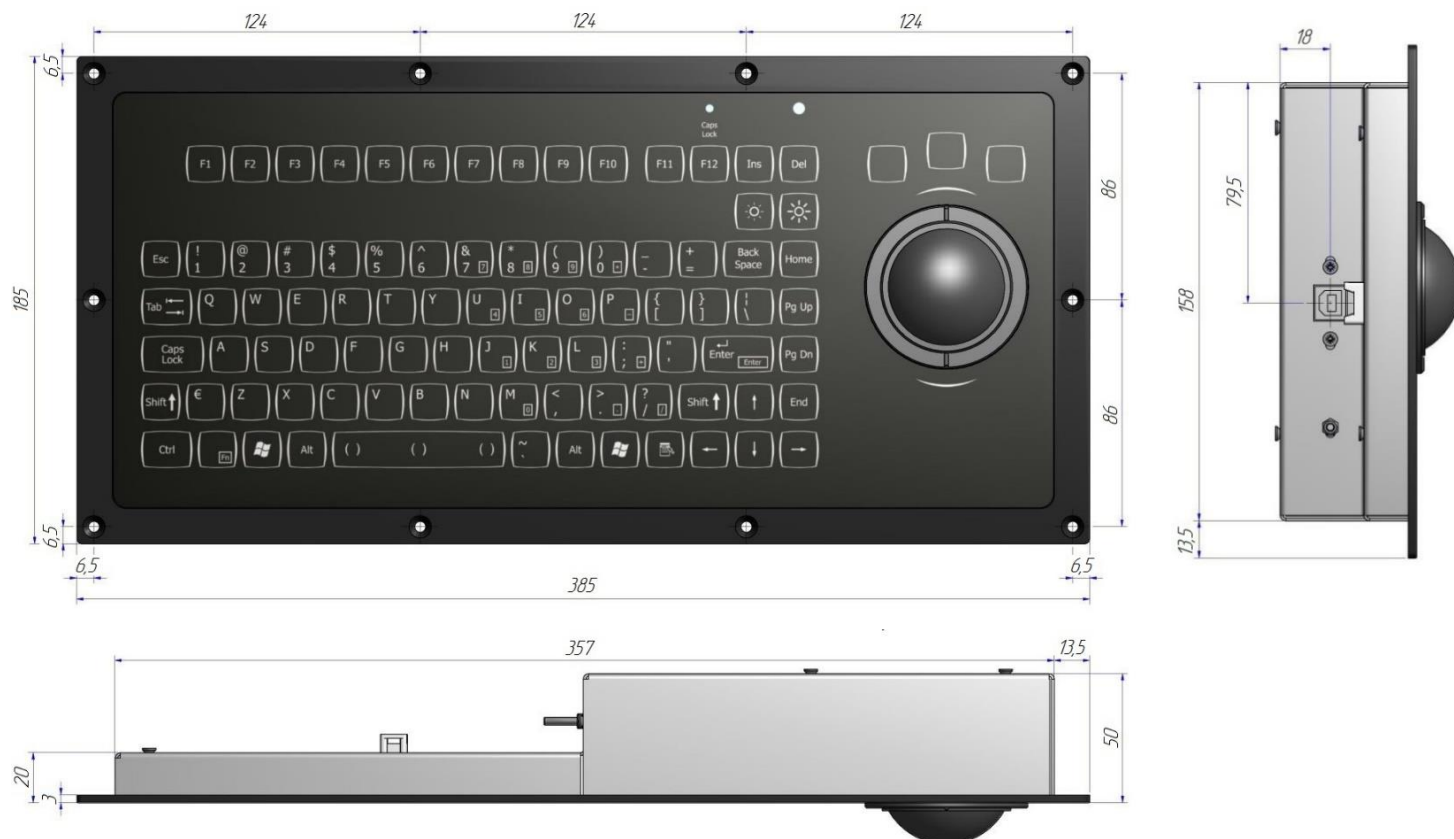
Technical specifications

Parameter	TBK-1488-02	TBK-1498-03	TBK-1588-02	TBK-1598-03
Type of connectors ¹⁾	standard			
Interface	USB	PS/2	USB	PS/2
Number of keyboard keys, pcs.	92			
Number of trackball keys, pcs.	3			
Key life, mln. clicks	min. 3			
Key travel, mm	0.3			
Keystroke force, N	2.55			
Layout	English or Russian			
Type of trackball	optical			
Ball diameter, mm	50			
Rotation force, g	80			
Trackball life, mln. rotations	6			
Mounting	panel		desktop	
Protection degree	IP54 (front panel)			
Operating temperature, °C	−15 to +55			
Limiting temperature, °C	−60 to +70			
Weight, kg	1.6			
Housing material	aluminum			
Trackball material	phenol resin			

¹⁾ Applied protective connectors: 2PMT14KIIH4III1B1B for USB interface, PC7TB for PS/2 interface.

Dimensional and installation specifications

TBK-1488-02, TBK-1498-03



TBK-1588-02, TBK-1598-03



KEYBOARD WITH TRACKBALL TYPES TBK-1379-01, TBK-1379-03, TBK-1369-02, TBK-1369-04



Certificates



Description

Keyboard with trackball consists of a set of keys placed in particular order that allows a person to input information, and a trackball, a rotating ball in the fixed housing that allows a person to position a cursor on the screen.

Certified as a part of Marine panel personal computer types MVPC-xx04, MVPC-xx05, MVPC-xx06, MVPC-xx07.

Technical specifications

Parameter	TBK-1369-02	TBK-1369-04	TBK-1379-01	TBK-1379-03
Type of connector ¹⁾	standard	protective	protective	standard
Interface	USB		PS/2	
Number of keyboard keys, pcs.	88			
Number of trackball keys, pcs.	2			
Key life, mln. clicks	min. 3			
Key travel, mm	0.3			
Keystroke force, N	2.6			
Layout	English or Russian			
Type of trackball	mechanical			
Ball diameter, mm	38			
Rotation force, g	50			
Trackball life, mln. rotations	6			
Mounting	panel			
Protection degree	IP54 (front panel)			
Operating temperature, °C	−15 to +55			
Limiting temperature, °C	−60 to +70			
Weight, kg	1.2			
Housing material	aluminum			
Trackball material	phenol resin			

¹⁾ Applied protective connectors: 2PMT14KПH4III1B1B for USB interface, PC7TB for PS/2 interface.

Dimensional and installation specifications



KEYBOARD WITH TRACKBALL TYPES TBK-2378-01, TBK-2378-03, TBK-2368-02, TBK-2368-04



Certificates



Description

Keyboard with trackball consists of a set of keys placed in particular order that allows a person to input information, and a trackball, a rotating ball in the fixed housing that allows a person to position a cursor on the screen.

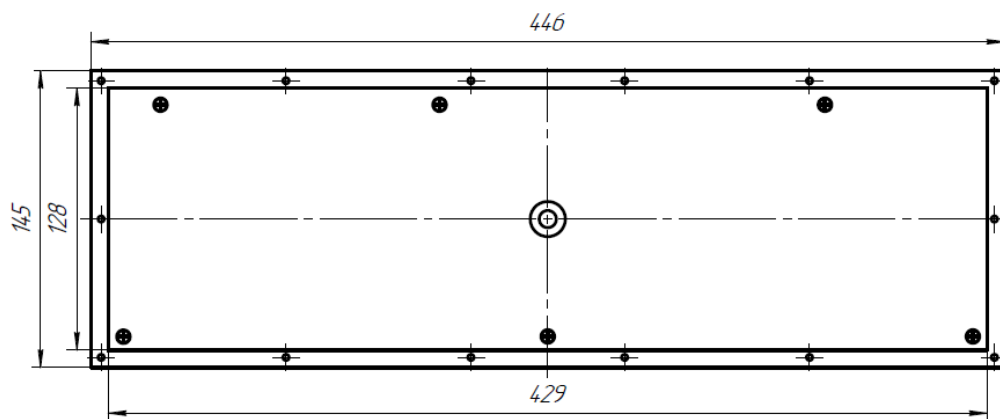
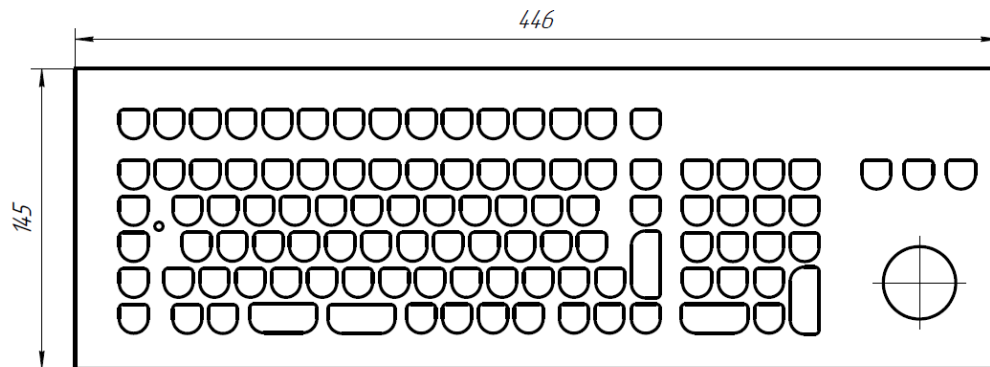
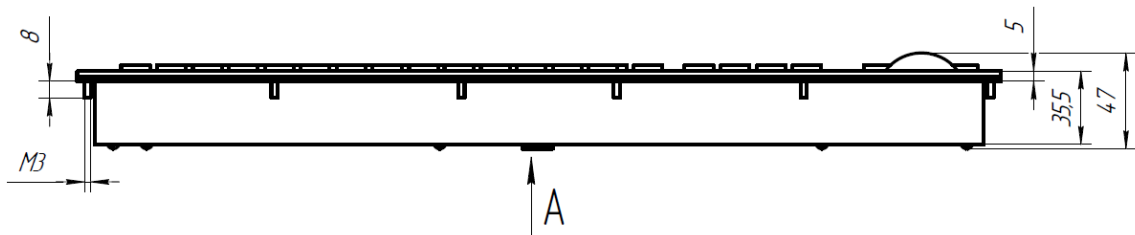
Certified as a part of Marine panel personal computer types MVPC-xx04, MVPC-xx05, MVPC-xx06, MVPC-xx07.

Technical specifications

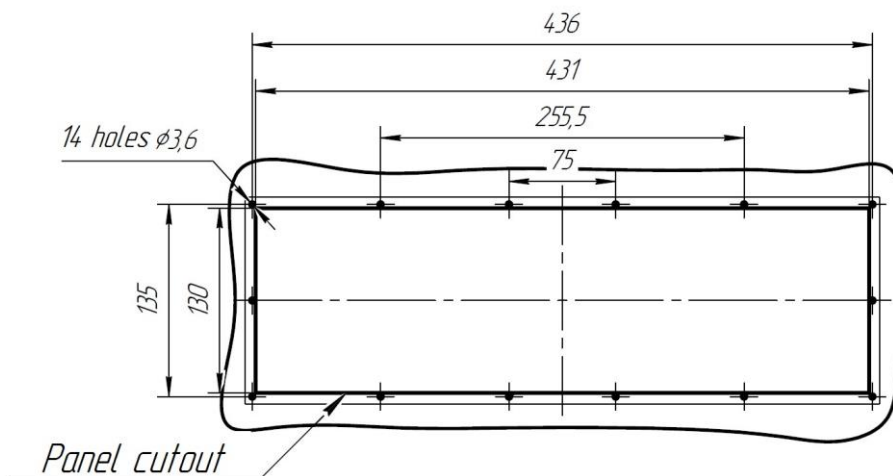
Parameter	TBK-2368-02	TBK-2368-04	TBK-2378-01	TBK-2378-03
Type of connectors ¹⁾	standard	protective	protective	standard
Interface	USB		PS/2	
Number of keyboard keys, pcs.	105			
Number of trackball keys, pcs.	3			
Key life, mln. clicks	min. 10			
Key travel, mm	1.5			
Keystroke force, N	1			
Layout	English or Russian			
Type of trackball	mechanical			
Ball diameter, mm	38			
Rotation force, g	50			
Trackball life, mln. rotations	6			
Mounting	panel			
Protection degree	IP54 (front panel)			
Operating temperature, °C	–15 to +55			
Limiting temperature, °C	–60 to +70			
Weight, kg	2.65			
Housing material	stainless steel			
Trackball material	stainless steel			

¹⁾ Applied protective connectors: 2PMT14KПH4III1B1B for USB interface, PC7TB for PS/2 interface.

Dimensional and installation specifications



Mounting cutout



KEYBOARD WITH TRACKBALL TYPES TBK-2379-01, TBK-2379-03, TBK-2369-02, TBK-2369-04



Certificates



Description

Keyboard with trackball consists of a set of keys placed in particular order that allows a person to input information, and a trackball, a rotating ball in the fixed housing that allows a person to position a cursor on the screen.

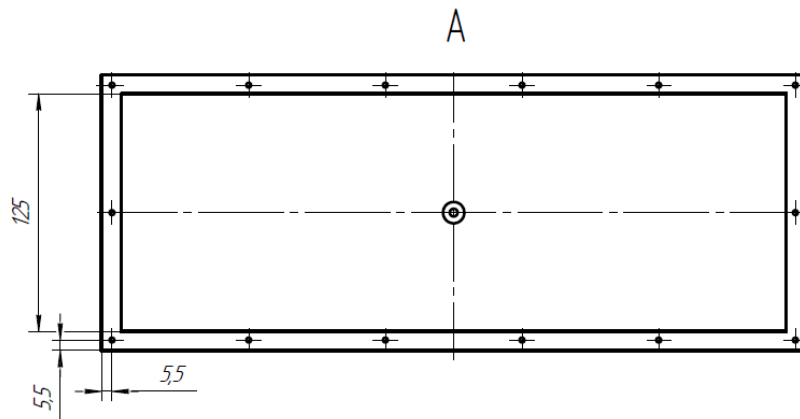
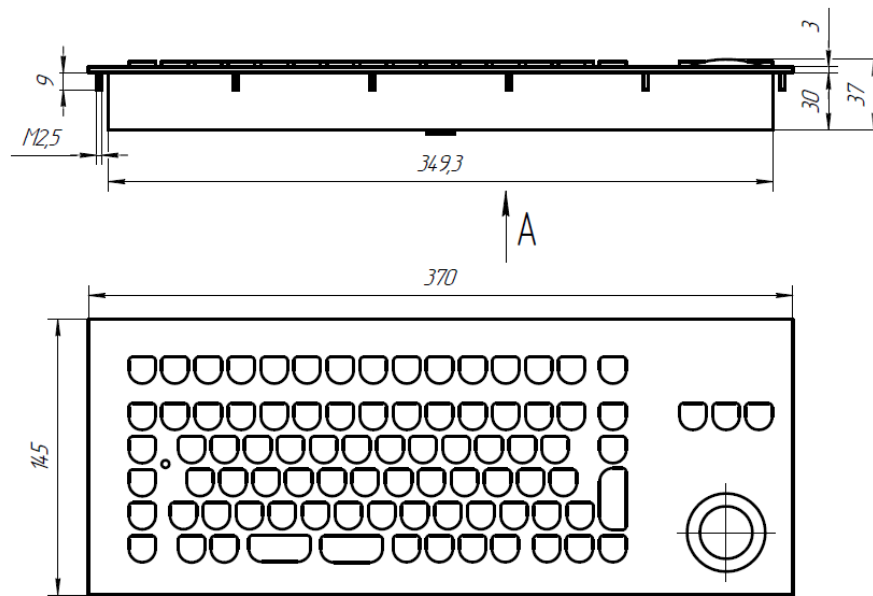
Certified as a part of Marine panel personal computer types MVPC-xx04, MVPC-xx05, MVPC-xx06, MVPC-xx07.

Technical specifications

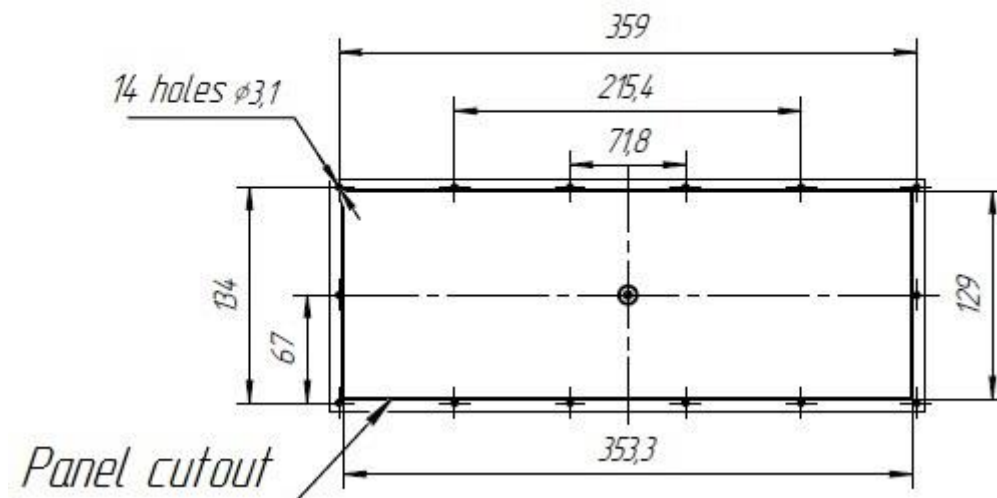
Parameter	TBK-2369-02	TBK-2369-04	TBK-2379-01	TBK-2379-03
Type of connectors ¹⁾	standard	protective	protective	standard
Interface	USB		PS/2	
Number of keyboard keys, pcs.	84			
Number of trackball keys, pcs.	3			
Key life, mln. clicks	min. 10			
Key travel, mm	1.5			
Keystroke force, N	1			
Layout	English or Russian			
Trackball type	mechanical			
Ball diameter, mm	25			
Rotation force, g	50			
Trackball life, mln. rotations	6			
Mounting	panel			
Protection degree	IP54 (front panel)			
Operating temperature, °C	−15 to +55			
Limiting temperature, °C	−60 to +70			
Weight, kg	2.2			
Housing material	stainless steel			
Trackball material	stainless steel			

¹⁾ Applied protective connectors: 2PMT14KIIIH4III1B1B for USB interface, PC7TB for PS/2 interface.

Dimensional and installation specifications



Mounting cutout



KEYBOARD WITH TRACKBALL TYPES TBK-1478-01, TBK-1478-03, TBK-1468-02, TBK-1468-04



Certificates



Description

Keyboard with trackball consists of a set of keys placed in particular order that allows a person to input information, and a trackball, a rotating ball in the fixed housing that allows a person to position a cursor on the screen.

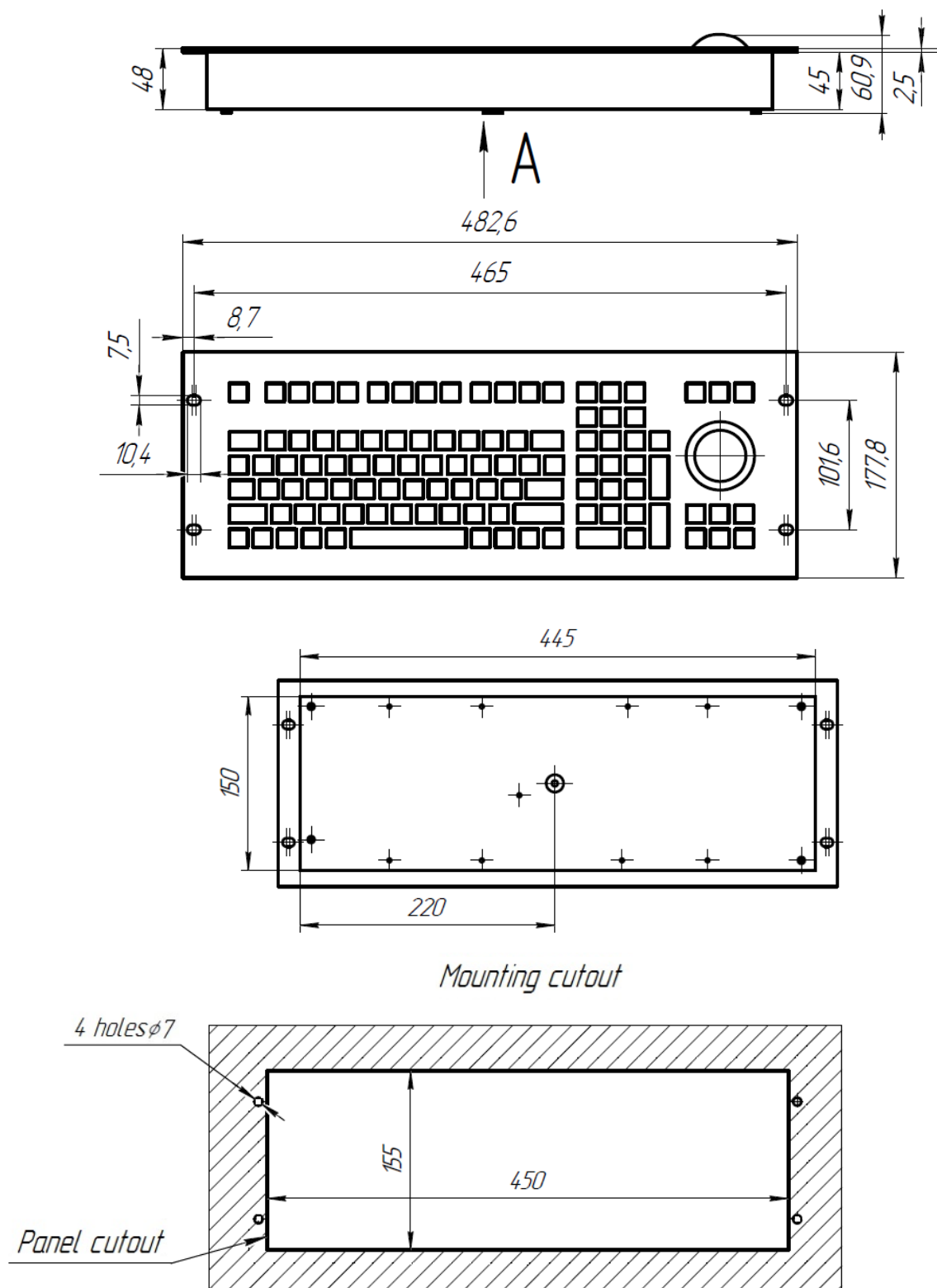
Certified as a part of Marine panel personal computer types MVPC-xx04, MVPC-xx05, MVPC-xx06, MVPC-xx07.

Technical specifications

Parameter	TBK-1468-02	TBK-1468-04	TBK-1478-01	TBK-1478-03
Type of connectors ¹⁾	standard	protective	protective	standard
Interface	USB		PS/2	
Number of keyboard keys, pcs.	105			
Number of trackball keys, pcs.	2			
Key life, mln. clicks	min. 3			
Key travel, mm	0.3			
Keystroke force, N	2.6			
Layout	English and Russian			
Trackball type	optical			
Ball diameter, mm	50			
Rotation force, g	80			
Trackball life, mln. rotations	6			
Mounting	panel			
Protection degree	IP54 (front panel)			
Operating temperature, °C	−15 to +55			
Limiting temperature, °C	−60 to +70			
Weight, kg	1.6			
Housing material	aluminum			
Trackball material	phenol resin			

¹⁾ Applied protective connectors: 2PMT14KПН4Ш1B1B for USB interface, PC7TB for PS/2 interface.

Dimensional and installation specifications



KEYBOARD WITH TRACKBALL TYPES TBK-1578-01, TBK-1578-03, TBK-1568-02, TBK-1568-04

Certificates

Description

Keyboard with trackball consists of a set of keys placed in particular order that allows a person to input information, and a trackball, a rotating ball in the fixed housing that allows a person to position a cursor on the screen.

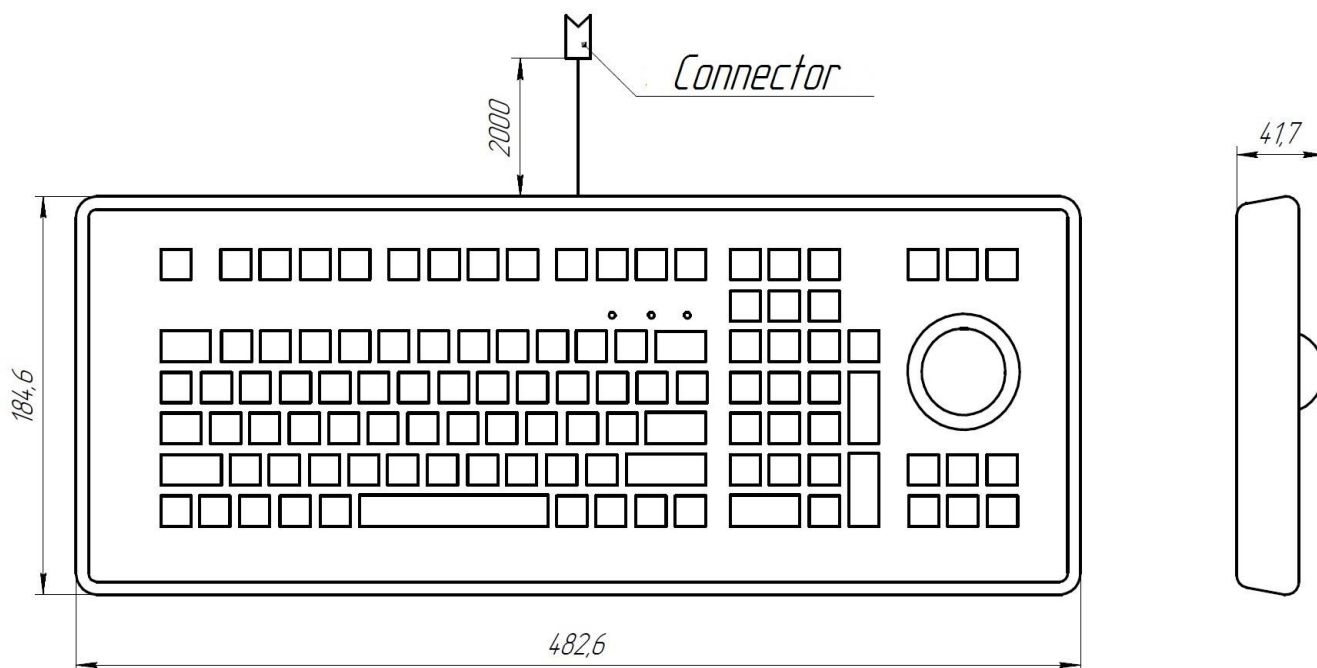
Certified as a part of Marine panel personal computer types MVPC-xx04, MVPC-xx05, MVPC-xx06, MVPC-xx07.

Technical specifications

Parameter	TBK-1568-02	TBK-1568-04	TBK-1578-01	TBK-1578-03
Type of connectors ¹⁾	standard	protective	protective	standard
Interface	USB		PS/2	
Number of keyboard keys, pcs.			105	
Number of trackball keys, pcs.			2	
Key life, mln. clicks			min. 3	
Key travel, mm			0.3	
Keystroke force, N			2.6	
Layout			English or Russian	
Trackball type			mechanical	
Ball diameter, mm			38	
Rotation force, g			50	
Trackball life, mln. rotations			6	
Mounting			desktop	
Protection degree			IP54	
Operating temperature, °C			-15 to +55	
Limiting temperature, °C			-60 to +70	
Weight, kg			1.5	
Housing material			ABS plastic	
Trackball material			phenol resin	

¹⁾ Applied protective connectors: 2PMT14KПH4III1B1B for USB interface, PC7TB for PS/2 interface.

Dimensional and installation specifications



KEYBOARD WITH TRACKBALL TYPES TBK-1579-01, TBK-1579-03, TBK-1569-02, TBK-1569-04



Certificates



Description

Keyboard with trackball consists of a set of keys placed in particular order that allows a person to input information, and a trackball, a rotating ball in the fixed housing that allows a person to position a cursor on the screen.

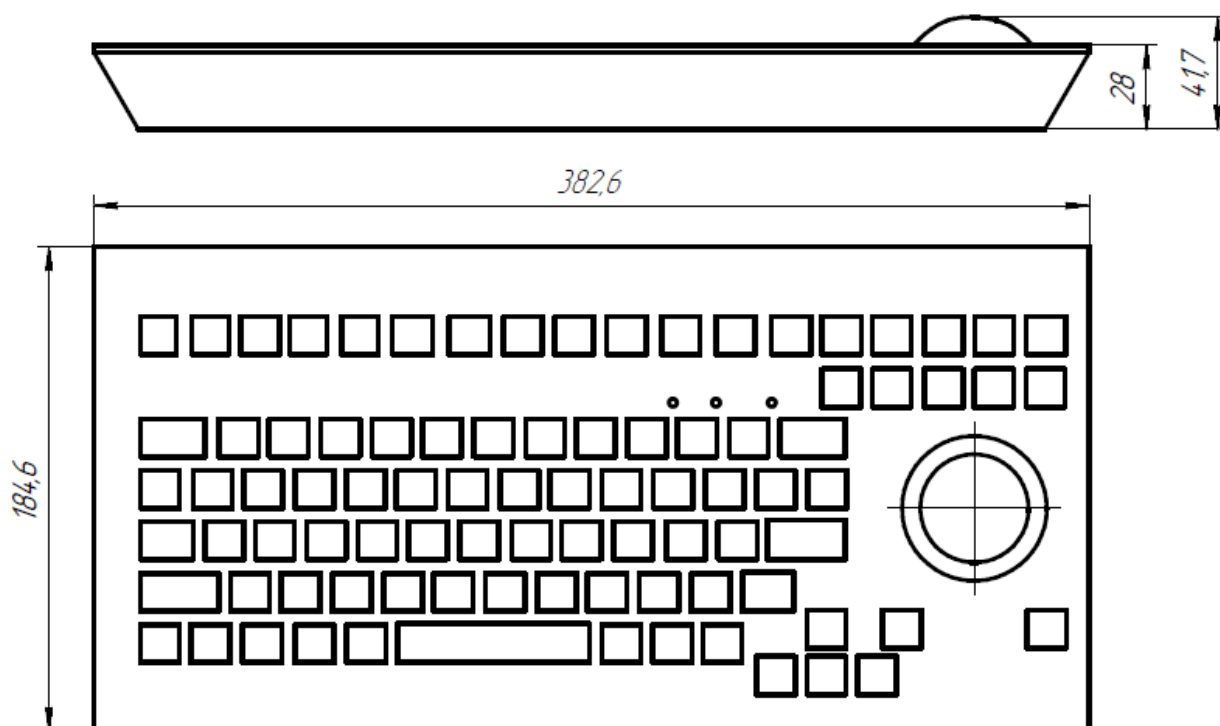
Certified as a part of Marine panel personal computer types MVPC-xx04, MVPC-xx05, MVPC-xx06, MVPC-xx07.

Technical specifications

Parameter	TBK-1569-02	TBK-1569-04	TBK-1579-01	TBK-1579-03
Type of connectors ¹⁾	standard	protective	protective	standard
Interface	USB		PS/2	
Number of keyboard keys, pcs.	88			
Trackball keys, pcs.	2			
Key life, mln. clicks	min. 3			
Key travel, mm	0.3			
Keystroke force, N	2.6			
Layout	English and Russian			
Trackball type	mechanical			
Ball diameter, mm	38			
Rotation force, g	50			
Trackball life, mln. rotations	6			
Mounting	desktop			
Protection degree	IP54			
Operating temperature, °C	−15 to +55			
Limiting temperature, °C	−60 to +70			
Weight, kg	1.1			
Housing material	ABS plastic			
Trackball material	phenol resin			

¹⁾ Applied protective connectors: 2PMT14KПH4ПH1B1B for USB interface, PC7TB for PS/2 interface.

Dimensional and installation specifications



KEYBOARD WITH TOUCHPAD TYPES TCK-1378-01, TCK-1378-03, TCK-1368-02, TCK-1368-04



Certificates



Description

Keyboard with touchpad consists of a set of keys placed in particular order that allows a person to input information, and a touchpad intended to position a cursor on the screen and enter commands.

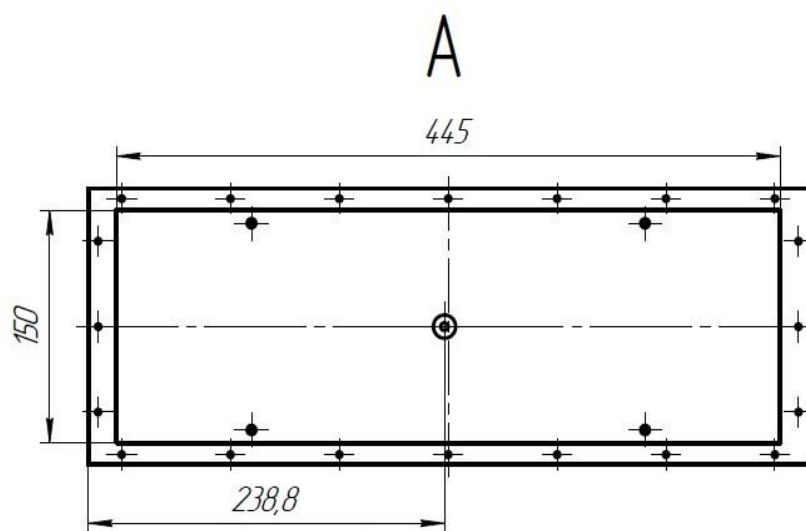
Certified as a part of Marine panel personal computer types MVPC-xx04, MVPC-xx05, MVPC-xx06, MVPC-xx07.

Technical specifications

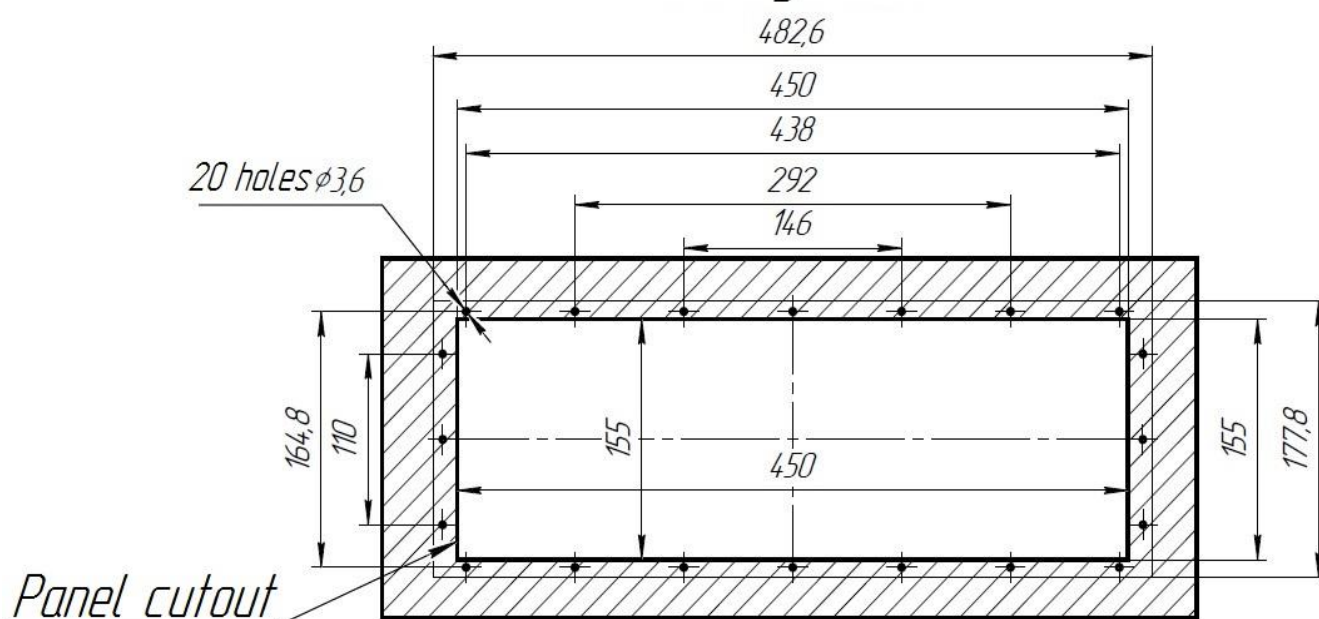
Parameter	TCK-1368-02	TCK-1368-04	TCK-1378-01	TCK-1378-03
Type of connectors ¹⁾	standard	protective	protective	standard
Interface	USB		PS/2	
Number of keyboard keys, pcs.	105			
Number of touchpad keys, pcs.	2			
Key life, mln. clicks	min. 3			
Key travel, mm	0.3			
Keystroke force, N	2.6			
Layout	English or Russian			
Touchpad type	capacitive			
Touchpad active area, mm	59x42			
Touchpad resolution, dpi	100 - 300			
Mounting	panel			
Protection degree	IP54 (front panel)			
Operating temperature, °C	−15 to +55			
Limiting temperature, °C	−60 to +70			
Weight, kg	1.2			
Material	aluminum			

¹⁾ Applied protective connectors: 2PMT14KПH4III1B1B for USB interface, PC7TB for PS/2 interface.

The drawing consists of two parts. The top part is a side profile of a keyboard, showing a long, thin rectangular shape. It has a series of small, rectangular keys along its top edge. Dimensions are indicated: a total height of 26,1 on the left, a base height of 20, and a small gap of 3 between the base and the top surface. A vertical arrow labeled 'A' points upwards from the center of the keyboard. The bottom part is a top-down view of the keyboard, showing a rectangular layout of keys. The overall width is dimensioned as 482,6 and the overall height as 177,8. The keys are represented by small rectangles, with some larger rectangles indicating function keys or a numeric keypad area.



Mounting cutout



KEYBOARD WITH TOUCHPAD TYPES TCK-1379-01, TCK-1379-03, TCK-1369-02, TCK-1369-04



Certificates



Description

Keyboard with touchpad consists of a set of keys placed in particular order that allows a person to input information, and a touchpad intended to position a cursor on the screen and enter commands.

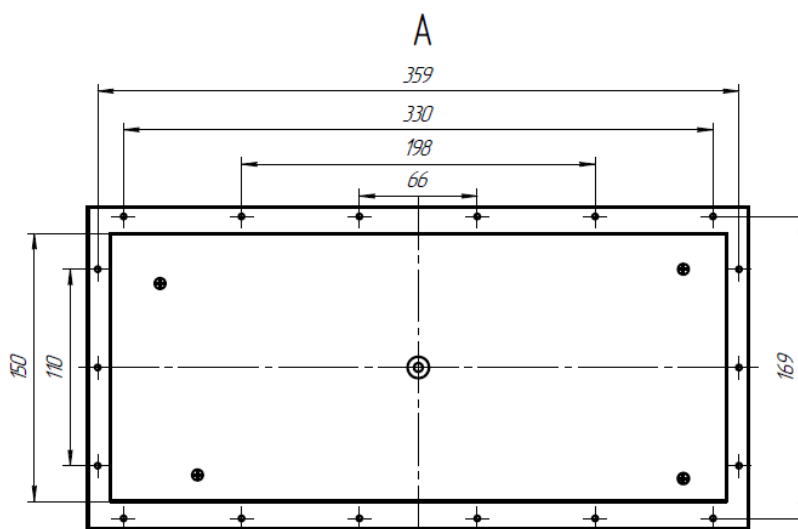
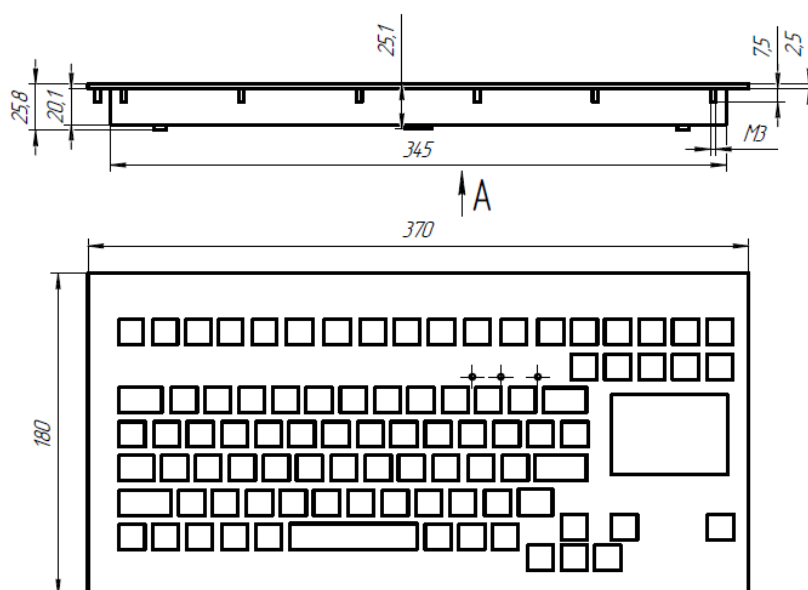
Certified as a part of Marine panel personal computer types MVPC-xx04, MVPC-xx05, MVPC-xx06, MVPC-xx07.

Technical specifications

Parameter	TCK-1369-02	TCK-1369-04	TCK-1379-01	TCK-1379-03
Type of connectors ¹⁾	standard	protective	protective	standard
Interface	USB		PS/2	
Number of keyboard keys, pcs.	88			
Number of touchpad keys, pcs.	2			
Key life, mln. clicks	min. 3			
Key travel, mm	0.3			
Keystroke force, N	2.6			
Layout	English or Russian			
Touchpad type	capacitive			
Touchpad active area, mm	59x42			
Touchpad resolution, dpi	100 - 300			
Mounting	panel			
Protection degree	IP54 (front panel)			
Operating temperature, °C	-15 to +55			
Limiting temperature, °C	-60 to +70			
Weight, kg	1.0			
Material	aluminum			

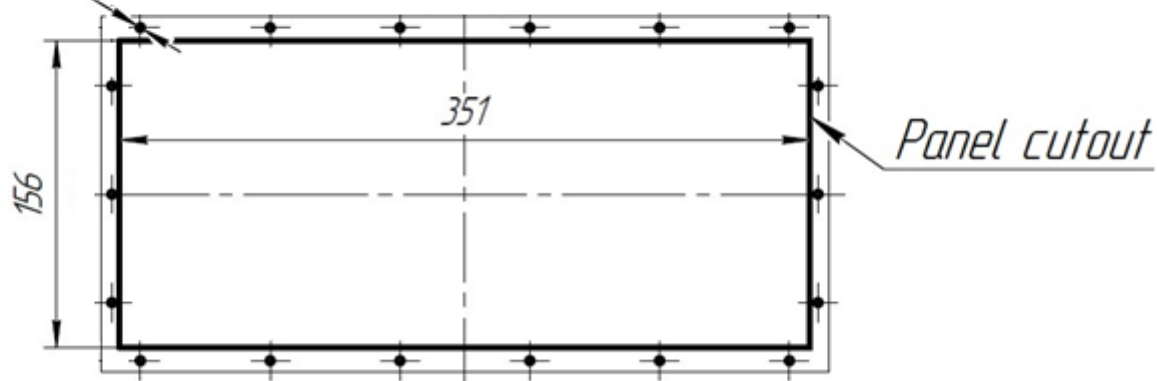
¹⁾ Applied protective connectors: 2PMT14KПH4III1B1B for USB interface, PC7TB for PS/2 interface.

Dimensional and installation specifications



18 holes $\phi 3,6$

Mounting hole



KEYBOARD WITH TOUCHPAD TYPES TCK-2378-01, TCK-2378-03, TCK-2368-02, TCK-2368-04



Certificates



Description

Keyboard with touchpad consists of a set of keys placed in particular order that allows a person to input information, and a touchpad intended to position a cursor on the screen and enter commands.

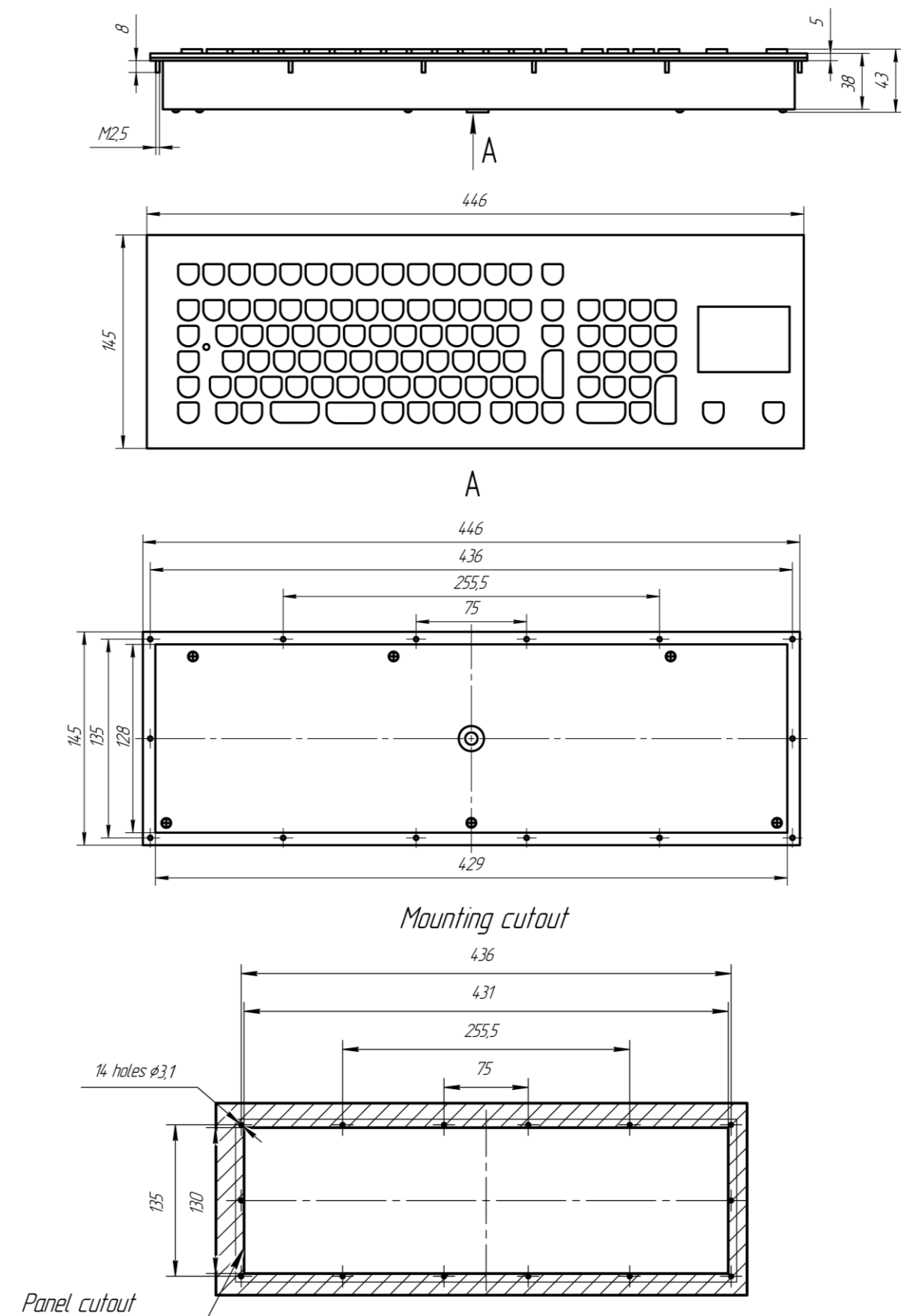
Certified as a part of Marine panel personal computer types MVPC-xx04, MVPC-xx05, MVPC-xx06, MVPC-xx07.

Technical specifications

Parameter	TCK-2368-02	TCK-2368-04	TCK-2378-01	TCK-2378-03
Type of connectors ¹⁾	standard	protective	protective	standard
Interface	USB		PS/2	
Number of keyboard keys, pcs.	105			
Number of touchpad keys, pcs.	2			
Key life, mln. clicks	min. 10			
Key travel, mm	1.5			
Keystroke force, N	1			
Layout	English or Russian			
Touchpad type	capacitive			
Touchpad active area, mm	59x42			
Touchpad resolution, dpi	100 - 300			
Mounting	panel			
Protection degree	IP54 (front panel)			
Operating temperature, °C	−15 to +55			
Limiting temperature, °C	−60 to +70			
Weight, kg	2.6			
Material	stainless steel			

¹⁾ Applied protective connectors: 2PMT14KПH4III1B1B for USB interface, PC7TB for PS/2 interface.

Dimensional and installation specifications



KEYBOARD WITH TOUCHPAD TYPES TCK-2379-01, TCK-2379-03, TCK-2369-02, TCK-2369-04



Certificates



Description

Keyboard with touchpad consists of a set of keys placed in particular order that allows a person to input information, and a touchpad intended to position a cursor on the screen and enter commands.

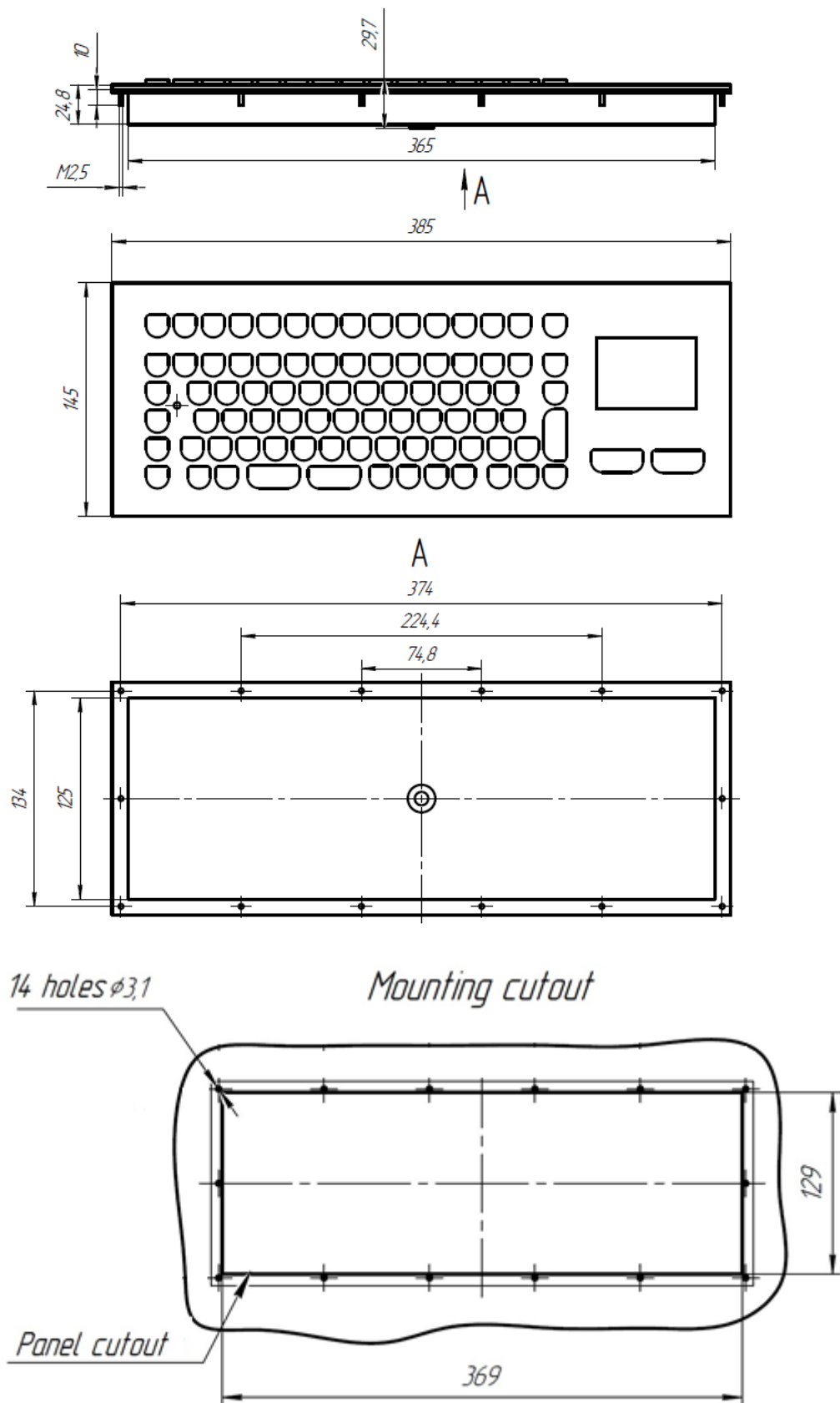
Certified as a part of Marine panel personal computer types MVPC-xx04, MVPC-xx05, MVPC-xx06, MVPC-xx07.

Technical specifications

Parameter	TCK-2369-02	TCK-2369-04	TCK-2379-01	TCK-2379-03
Type of connectors ¹⁾	standard	protective	protective	standard
Interface	USB		PS/2	
Number of keyboard keys, pcs.	84			
Number of touchpad keys, pcs.	2			
Key life, mln. clicks	min. 10			
Key travel, mm	1.5			
Keystroke force, N	1			
Layout	English or Russian			
Touchpad type	capacitive			
Touchpad active area, mm	59x42			
Touchpad resolution, dpi	100 - 300			
Mounting	panel			
Protection degree	IP54 (front panel)			
Operating temperature, °C	−15 to +55			
Limiting temperature, °C	−60 to +70			
Weight, kg	2.1			
Material	stainless steel			

¹⁾ Applied protective connectors: 2PMT14KПН4Ш1B1B for USB interface, PC7TB for PS/2 interface.

Dimensional and installation specifications



KEYBOARD WITH TOUCHPAD TYPES TCK-1478-01, TCK-1478-03, TCK-1468-02, TCK-1468-04



Certificates



Description

Keyboard with touchpad consists of a set of keys placed in particular order that allows a person to input information, and a touchpad intended to position a cursor on the screen and enter commands.

Certified as a part of Marine panel personal computer types MVPC-xx04, MVPC-xx05, MVPC-xx06, MVPC-xx07.

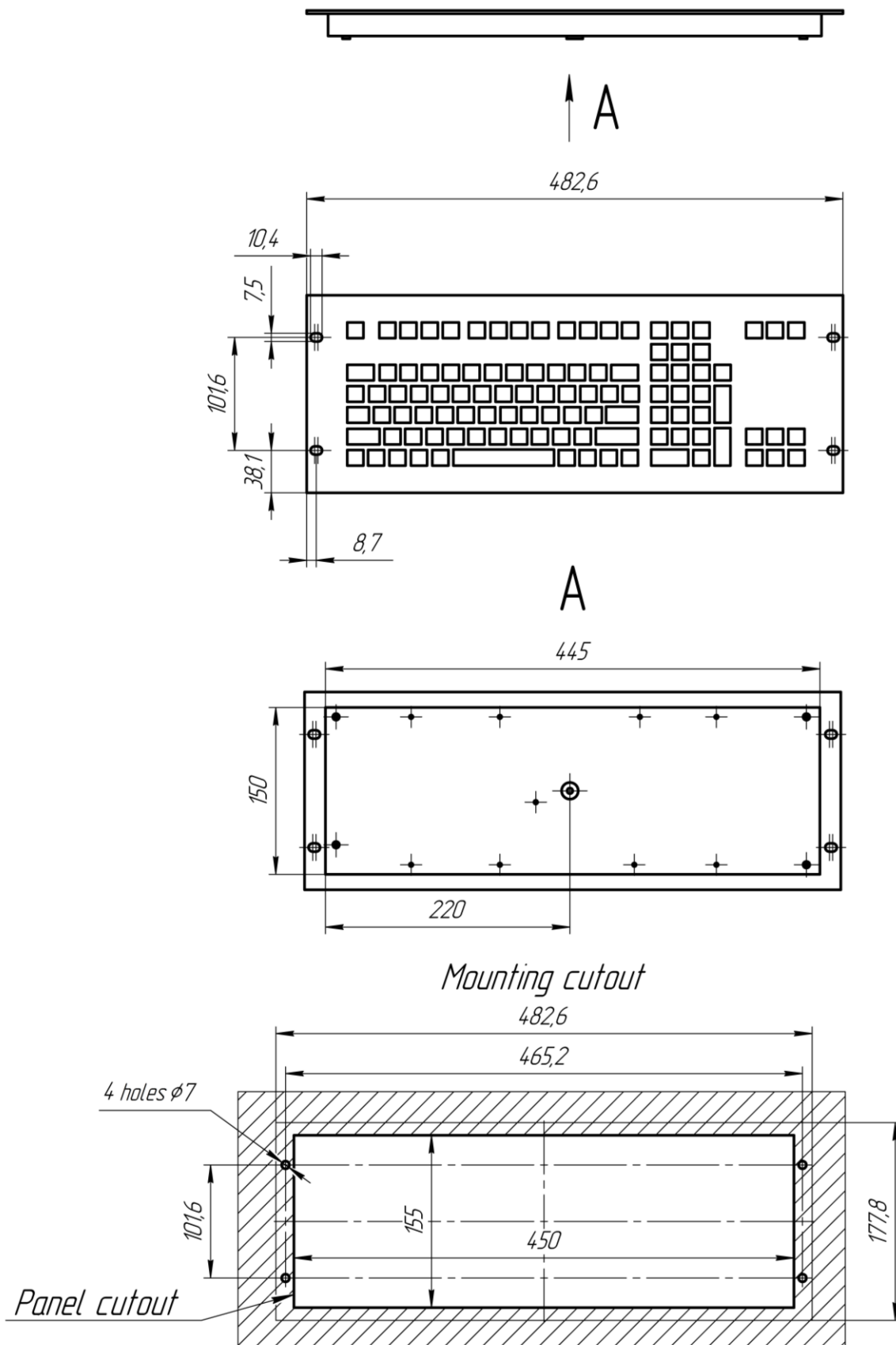
Technical specifications

Parameter	TCK-1468-02	TCK-1468-04	TCK-1478-01	TCK-1478-03
Type of connectors ¹⁾	standard	protective	protective	standard
Interface	USB		PS/2	
Number of keyboard keys, pcs.	105			
Number of touchpad keys, pcs.	2			
Key life, mln. clicks	min. 3			
Key travel, mm	0.3			
Keystroke force, N	2.6			
Layout	English or Russian			
Touchpad type	capacitive			
Touchpad active area, mm	59x42			
Touchpad resolution, dpi	100 - 300			
Mounting	panel rack (4U) ²⁾			
Protection degree	IP54 (front panel)			
Operating temperature, °C	−15 to +55			
Limiting temperature, °C	−60 to +70			
Weight, kg	1.2			
Material	aluminum			

¹⁾ Applied protective connectors: 2PMT14K11H4111B1B for USB interface, PC7TB for PS/2 interface.

²⁾ Rack mounting 19" 4U height.

Dimensional and installation specifications



KEYBOARD WITH TOUCHPAD TYPES TCK-1578-01, TCK-1578-03, TCK-1568-02, TCK-1568-04



Certificates



Description

Keyboard with touchpad consists of a set of keys placed in particular order that allows a person to input information, and a touchpad intended to position a cursor on the screen and enter commands.

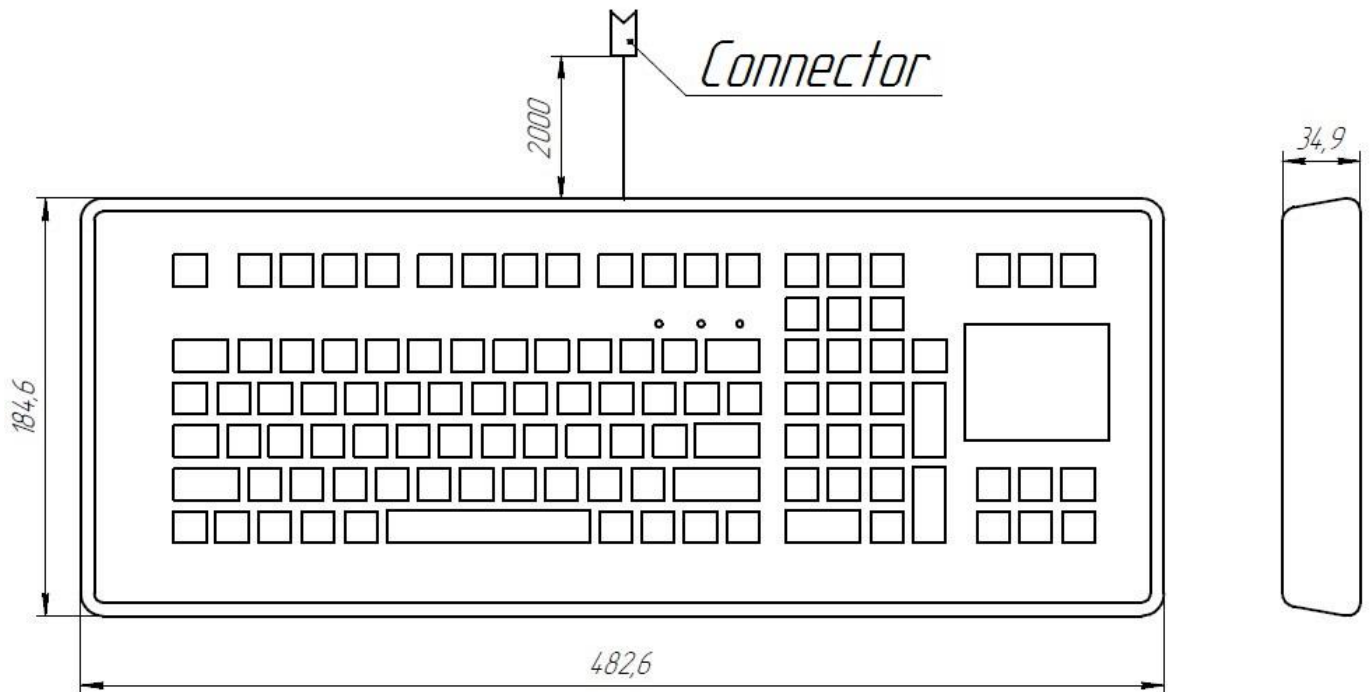
Certified as a part of Marine panel personal computer types MVPC-xx04, MVPC-xx05, MVPC-xx06, MVPC-xx07.

Technical specifications

Parameter	TCK-1568-02	TCK-1568-04	TCK-1578-01	TCK-1578-03
Type of connectors ¹⁾	standard	protective	protective	standard
Interface	USB		PS/2	
Number of keyboard keys, pcs.	105			
Number of touchpad keys, pcs.	2			
Key life, mln. clicks	min. 3			
Key travel, mm	0.3			
Keystroke force, N	2.6			
Layout	English or Russian			
Touchpad type	capacitive			
Touchpad active area, mm	59x42			
Touchpad resolution, dpi	100 - 300			
Mounting	desktop			
Protection degree	IP54			
Operating temperature, °C	−15 to +55			
Limiting temperature, °C	−60 to +70			
Weight, kg	1.3			
Material	ABS plastic			

¹⁾ Applied protective connectors: 2PMT14KПH4Ш1B1B for USB interface, PC7TB for PS/2 interface.

Dimensional and installation specifications



KEYBOARD WITH TOUCHPAD TYPES TCK-1579-01, TCK-1579-03, TCK-1569-02, TCK-1569-04



Certificates



Description

Keyboard with touchpad consists of a set of keys placed in particular order that allows a person to input information, and a touchpad intended to position a cursor on the screen and enter commands.

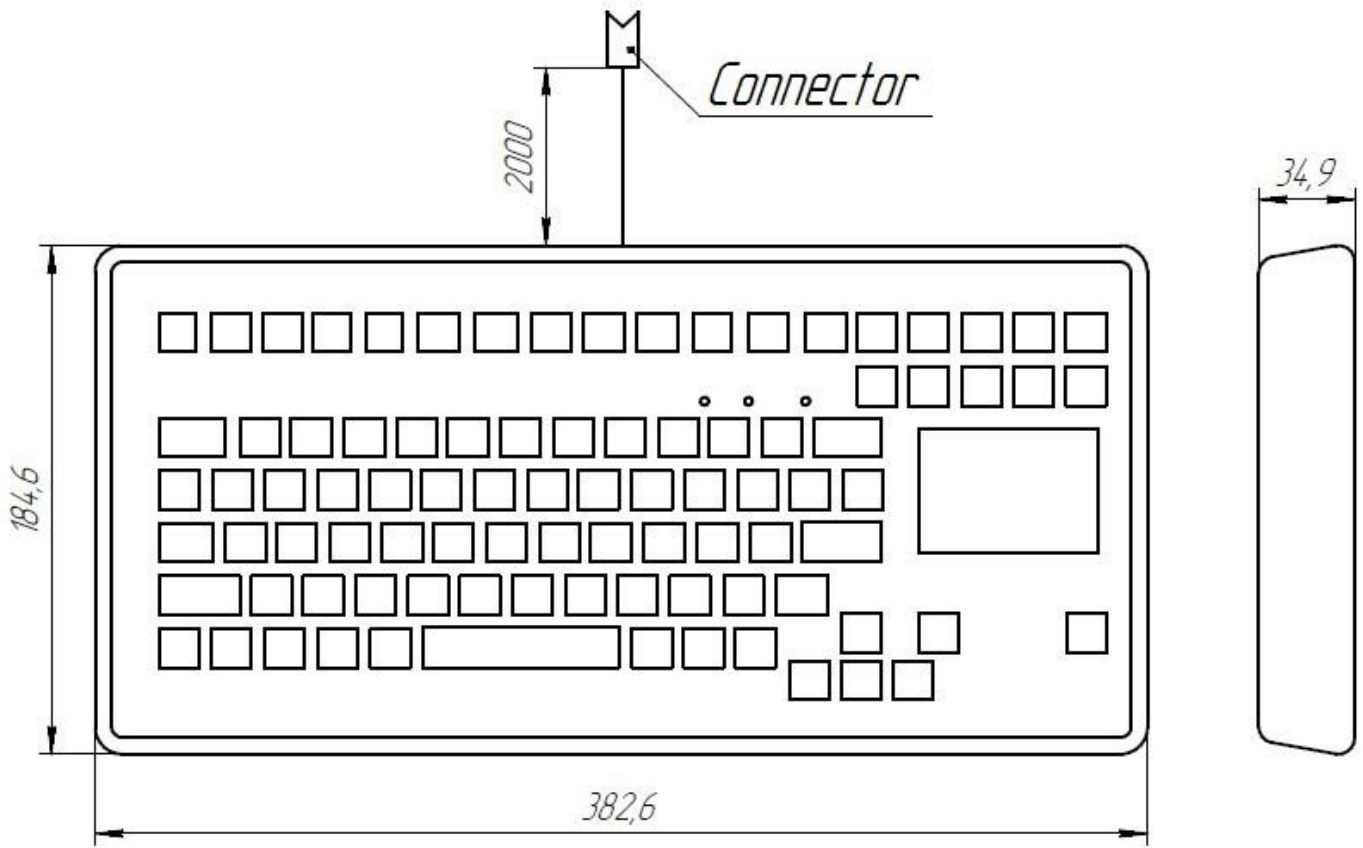
Certified as a part of Marine panel personal computer types MVPC-xx04, MVPC-xx05, MVPC-xx06, MVPC-xx07.

Technical specifications

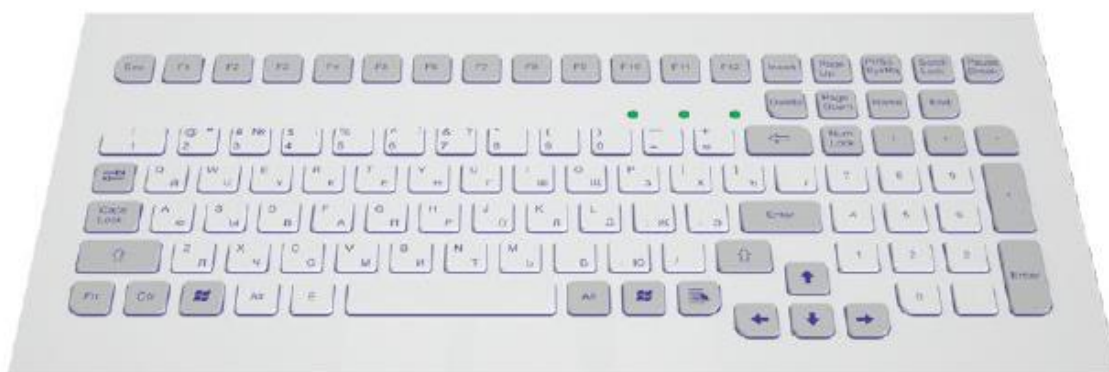
Parameter	TCK-1569-02	TCK-1569-04	TCK-1579-01	TCK-1579-03
Type of connectors ¹⁾	standard	protective	protective	standard
Interface	USB		PS/2	
Number of keyboard keys, pcs.	88			
Number of touchpad keys, pcs.	2			
Key life, mln. clicks	min. 3			
Key travel, mm	0.3			
Keystroke force, N	2.6			
Layout	English and Russian			
Touchpad type	capacitive			
Touchpad active area, mm	59x42			
Touchpad resolution, dpi	100 - 300			
Mounting	desktop			
Protection degree	IP54			
Operating temperature, °C	−15 to +55			
Limiting temperature, °C	−60 to +70			
Weight, kg	1.0			
Material	ABS plastic			

¹⁾ Applied protective connectors: 2PMT14KПН4Ш1B1B for USB interface, PC7TB for PS/2 interface.

Dimensional and installation specifications



KEYBOARD TYPES K-1378-01, K-1378-03, K-1368-02, K-1368-04



Certificates



Description

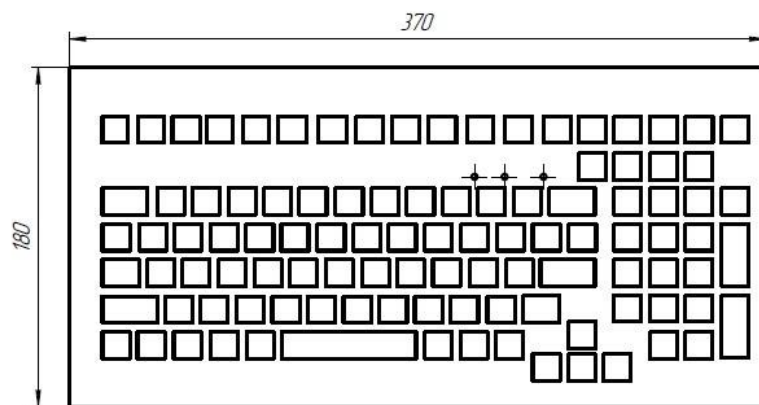
Keyboard without a manipulator is a set of keys placed in particular order that allows a person to input information.

Certified as a part of Marine panel personal computer types MVPC-xx04, MVPC-xx05, MVPC-xx06, MVPC-xx07.

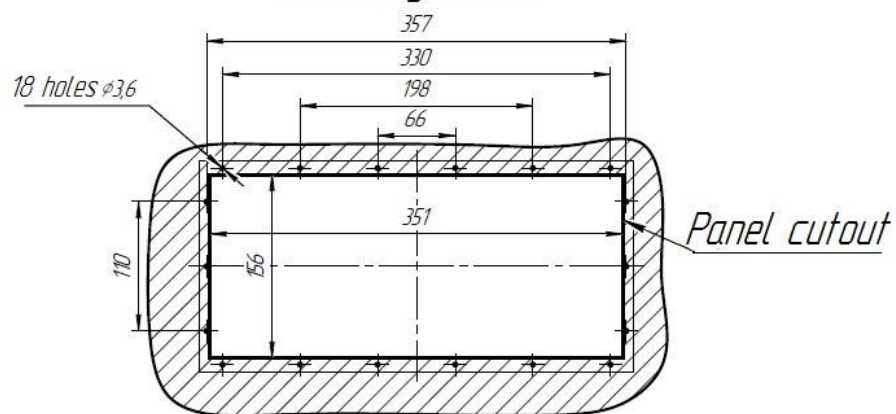
Technical specifications

Parameter	K-1368-02	K-1368-04	K-1378-01	K-1378-03
Type of connectors ¹⁾	standard	protective	protective	standard
Interface	USB		PS/2	
Number of keyboard keys, pcs.	104			
Key life, mln. clicks	min. 3			
Key travel, mm	0.3			
Keystroke force, N	2.6			
Layout	English or Russian			
Mounting	panel			
Protection degree	IP54 (front panel)			
Operating temperature, °C	−15 to +55			
Limiting temperature, °C	−60 to +70			
Weight, kg	1.0			
Material	aluminum			

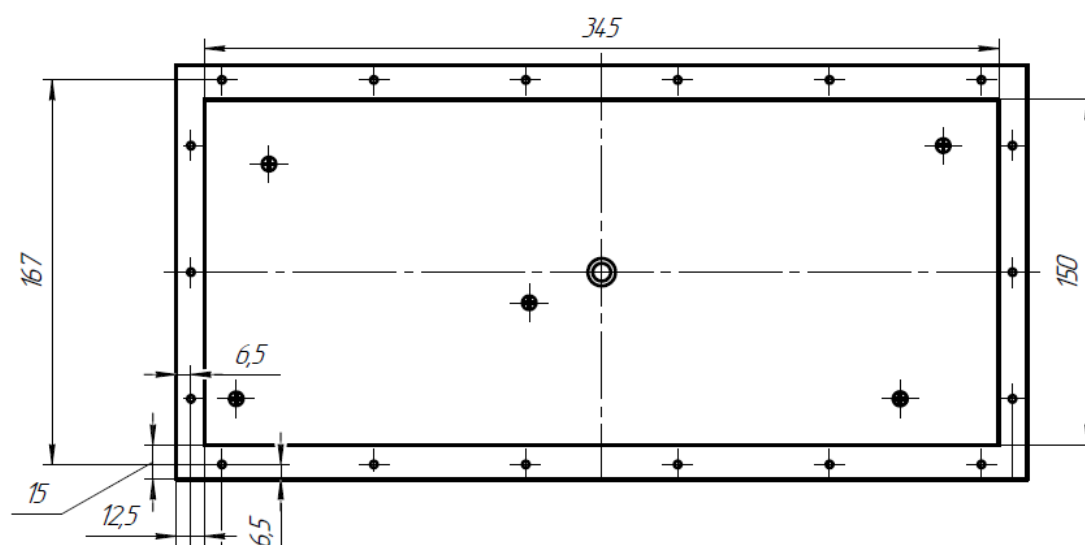
¹⁾ Applied protective connectors: 2PMT14КПН4Ш1В1В для интерфейса USB, PC7ТВ для интерфейса PS/2.



Mounting cutout



A



KEYBOARD TYPES K-1578-01, K-1578-03, K-1568-02, K-1568-04



Certificates



Description

Keyboard without a manipulator is a set of keys placed in particular order that allows a person to input information.

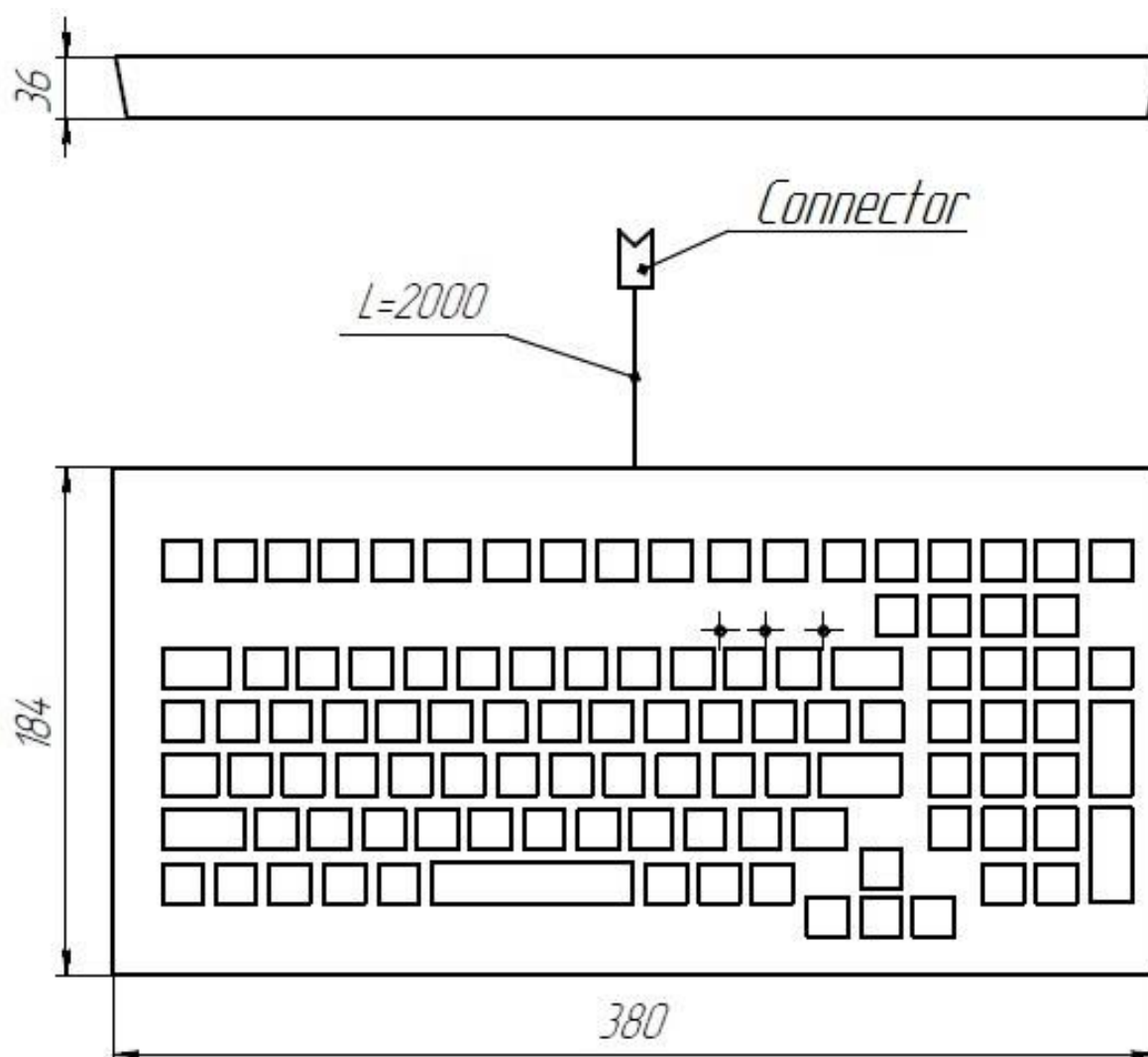
Certified as a part of Marine panel personal computer types MVPC-xx04, MVPC-xx05, MVPC-xx06, MVPC-xx07.

Technical specifications

Parameter	K-1568-02	K-1568-04	K-1578-01	K-1578-03
Type of connectors ¹⁾	standard	protective	protective	standard
Interface	USB		PS/2	
Number of keyboard keys, pcs.	104			
Key life, mln. clicks	min. 3			
Key travel, mm	0.3			
Keystroke force, N	2.6			
Layout	English or Russian			
Mounting	desktop			
Protection degree	IP54			
Operating temperature, °C	–15 to +55			
Limiting temperature, °C	–60 to +70			
Weight, kg	1.1			
Material	ABS plastic			

¹⁾ Applied protective connectors: 2PMT14KПН4П1B1B for USB interface, PC7TB for PS/2 interface.

Dimensional and installation specifications



KEYBOARD TYPES K-1478-01, K-1478-03, K-1468-02, K-1468-04



Certificates



Description

Keyboard without a manipulator is a set of keys placed in particular order that allows a person to input information.

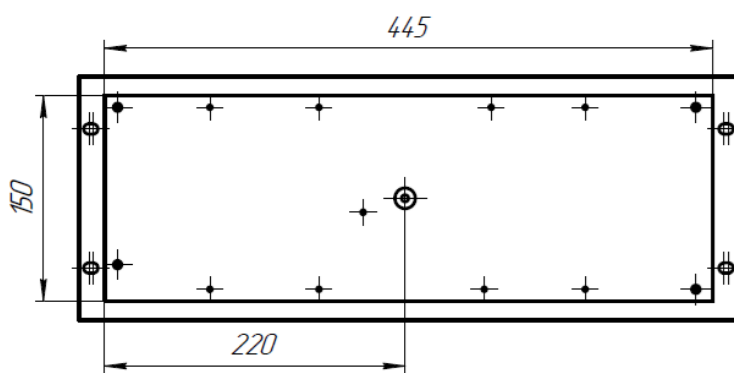
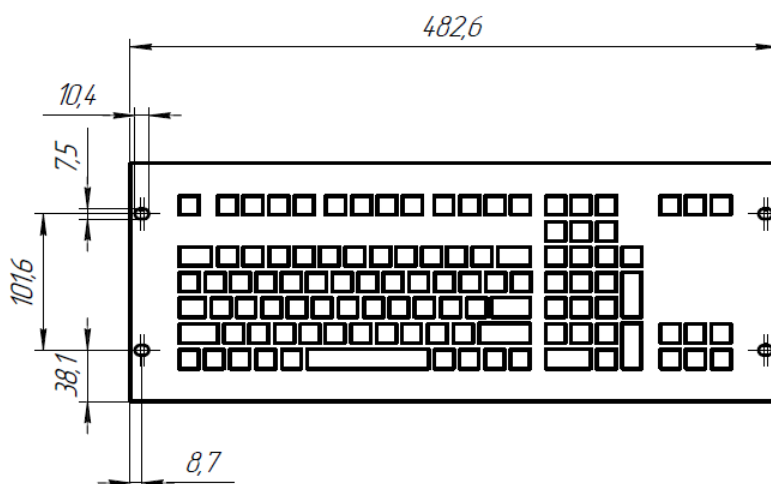
Certified as a part of Marine panel personal computer types MVPC-xx04, MVPC-xx05, MVPC-xx06, MVPC-xx07.

Technical specifications

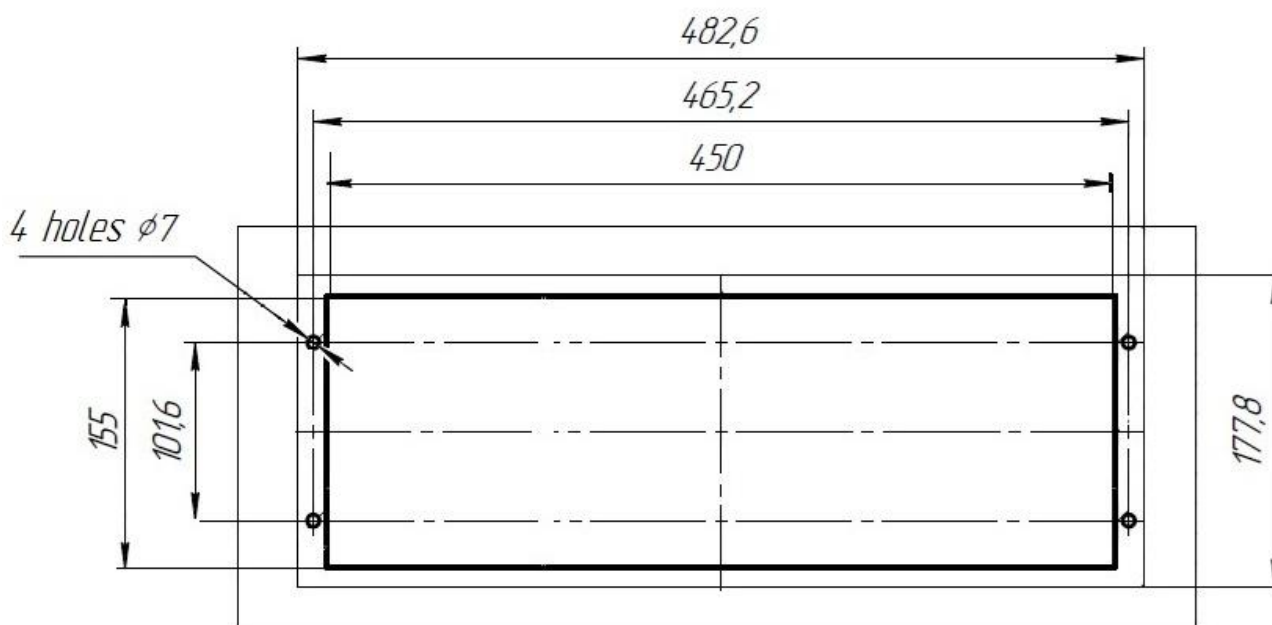
Parameter	K-1468-02	K-1468-04	K-1478-01	K-1478-03
Type of connectors ¹⁾	standard	protective	protective	standard
Interface	USB		PS/2	
Number of keyboard keys, pcs.	104			
Key life, mln. clicks	min. 3			
Key travel, mm	0.3			
Keystroke force, N	2.6			
Layout	English or Russian			
Mounting	rack 19" (pull-out)			
Protection degree	IP54			
Operating temperature, °C	–15 to +55			
Limiting temperature, °C	–60 to +70			
Weight, kg	5.0			
Material	aluminum (front panel) steel (housing)			

¹⁾ Applied protective connectors: 2PMT14KПН4ПН1B1B for USB interface, PC7TB for PS/2 interface.

Dimensional and installation specifications



Mounting cutout



KEYBOARD TYPES K-1379-01, K-1379-03, K-1369-02, K-1369-04



Certificates



Description

Keyboard without a manipulator is a set of keys placed in particular order that allows a person to input information.

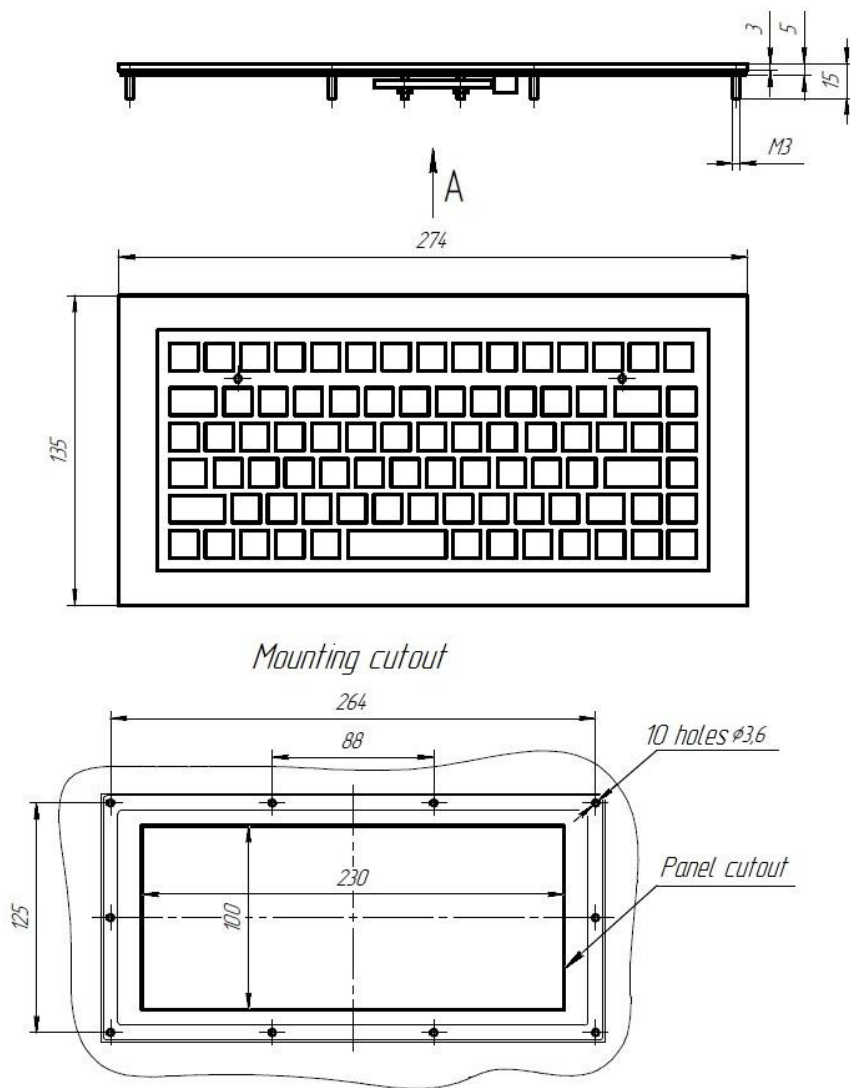
Certified as a part of Marine panel personal computer MVPC-xx04, MVPC-xx05, MVPC-xx06, MVPC-xx07 types.

Technical specifications

Parameter	K-1369-02	K-1369-04	K-1379-01	K-1379-03
Type of connectors ¹⁾	standard	protective	protective	standard
Interface	USB		PS/2	
Number of keyboard keys, pcs.	85			
Key life, mln. clicks	min. 1			
Key travel, mm	0.6			
Keystroke force, N	3			
Layout	English or Russian			
Mounting	panel			
Protection degree	IP54 (front panel)			
Operating temperature, °C	–15 to +55			
Limiting temperature, °C	–60 to +70			
Weight, kg	0.35			
Material	glass fiber laminate FR4 (front panel) aluminum (housing)			

¹⁾ Applied protective connectors: 2PMT14KПH4III1B1B for USB interface, PC7TB for PS/2 interface.

Dimensional and installation specifications



KEYBOARD TYPES K-1579-01, K-1579-03, K-1569-02, K-1569-04



Certificates



Description

Keyboard without a manipulator is a set of keys placed in particular order that allows a person to input information.

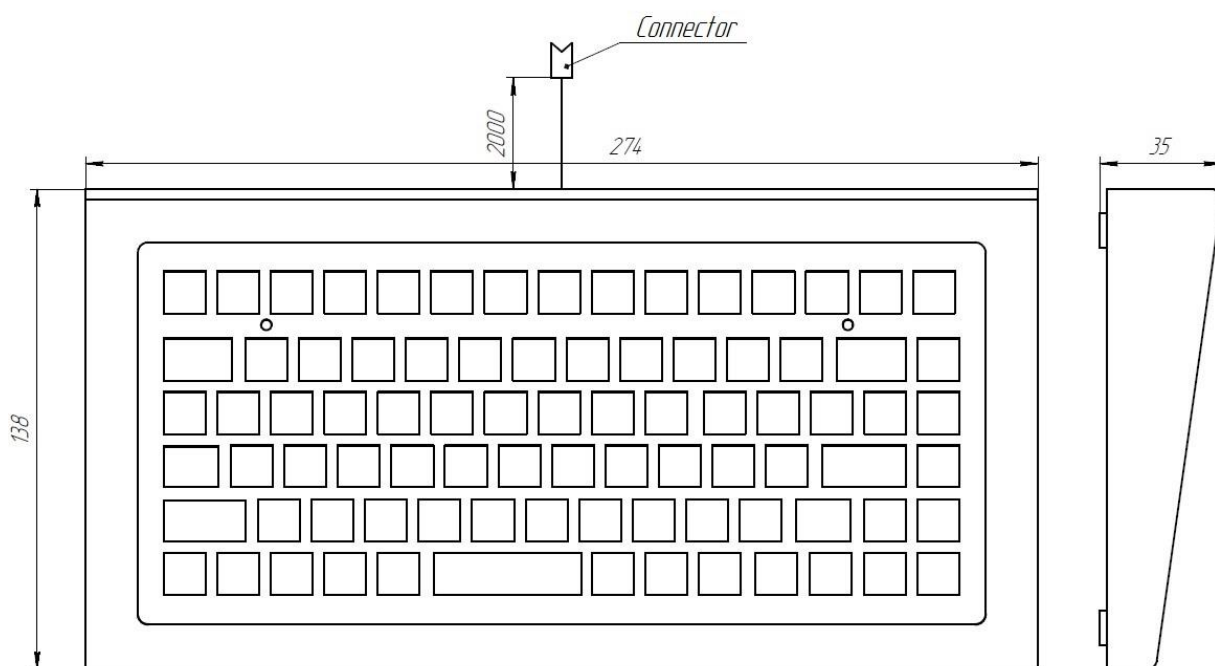
Certified as a part of Marine panel personal computer types MVPC-xx04, MVPC-xx05, MVPC-xx06, MVPC-xx07.

Technical specifications

Parameter	K-1569-02	K-1569-04	K-1579-01	K-1579-03
Type of connectors ¹⁾	standard	protective	protective	standard
Interface	USB		PS/2	
Number of keyboard keys, pcs.	85			
Key life, mln. clicks	min. 1			
Key travel, mm	0.6			
Keystroke force, N	3			
Layout	English or Russian			
Mounting	desktop			
Protection degree	IP54			
Operating temperature, °C	–15 to +55			
Limiting temperature, °C	–60 to +70			
Weight, kg	0.7			
Material	ABS plastic			

¹⁾ Applied protective connectors: 2PMT14KIIH4III1B1B for USB interface, PC7TB for PS/2 interface.

Dimensional and installation specifications



KEYBOARD TYPES K-2379-01, K-2379-03, K-2369-02, K-2369-04



Certificates



Description

Keyboard without a manipulator is a set of keys placed in particular order that allows a person to input information.

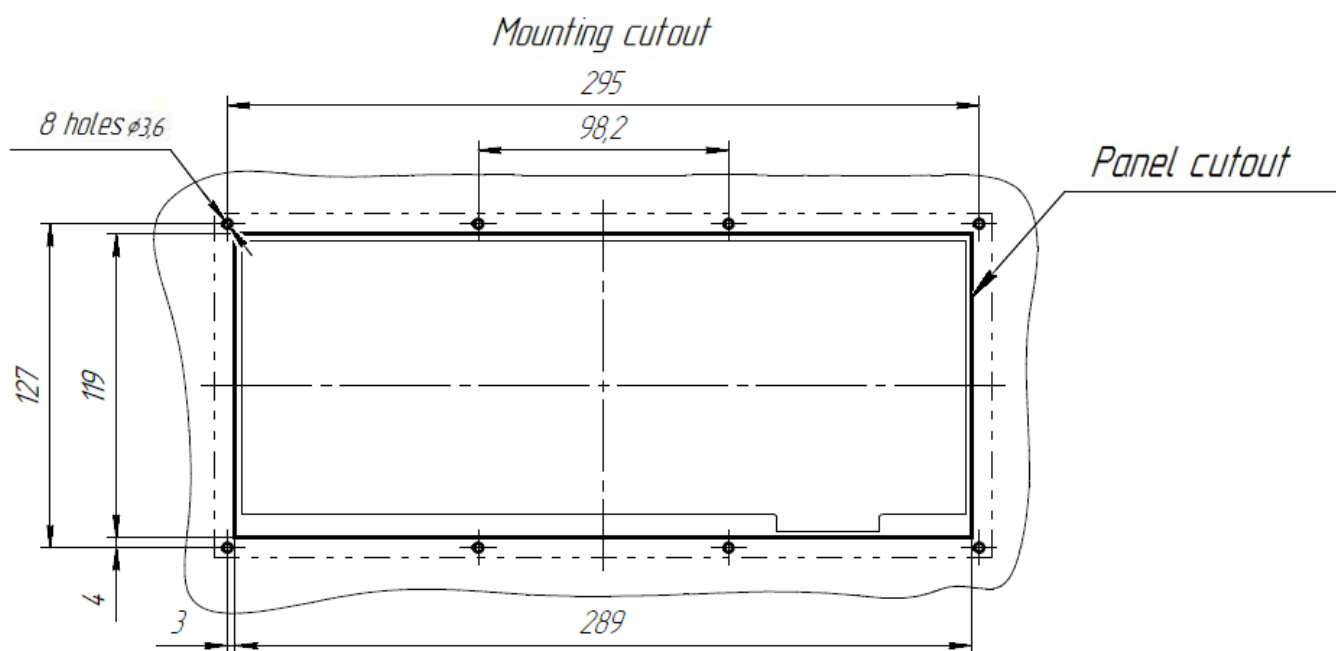
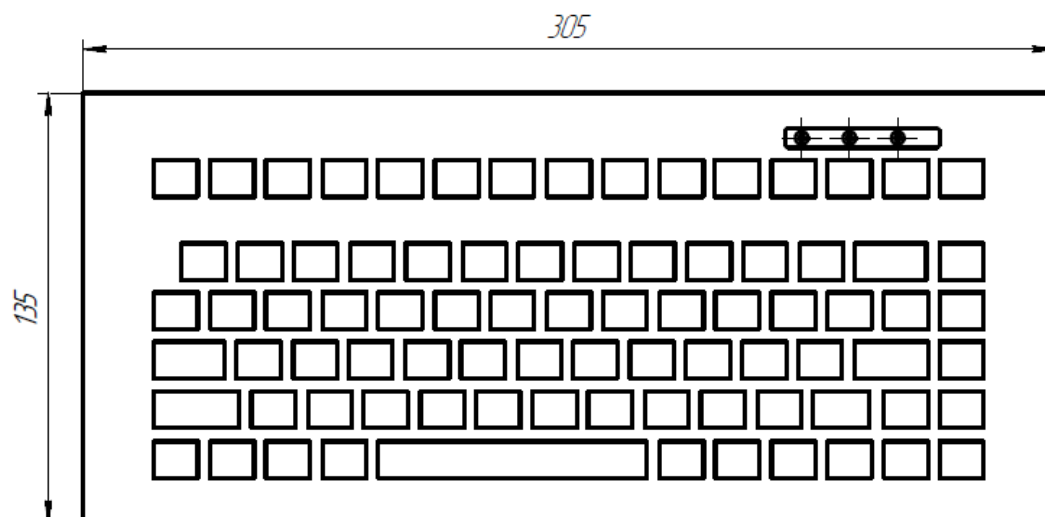
Certified as a part of Marine panel personal computer types MVPC-xx04, MVPC-xx05, MVPC-xx06, MVPC-xx07.

Technical specifications

Parameter	K-2369-02	K-2369-04	K-2379-01	K-2379-03
Type of connectors ¹⁾	standard	protective	protective	standard
Interface	USB		PS/2	
Number of keyboard keys, pcs.	83			
Key life, mln. clicks	min. 1			
Key travel, mm	1.2			
Keystroke force, N	1.2			
Layout	English or Russian			
Mounting	panel			
Protection degree	IP54 (front panel)			
Operating temperature, °C	–15 to +55			
Limiting temperature, °C	–60 to +70			
Weight, kg	0.5			
Material	glass fiber laminate FR4 (front panel) aluminum (housing)			

¹⁾ Applied protective connectors: 2PMT14KПH4ПH1B1B for USB interface, PC7TB for PS/2 interface.

Dimensional and installation specifications



TRACKBALL MANIPULATOR TYPES TBM-2378-01, TBM-2378-03, TBM-2368-02, TBM-2368-04



Certificates



Description

Trackball manipulator is a device intended to position the cursor on the screen by rotation of the ball installed inside the fixed housing.

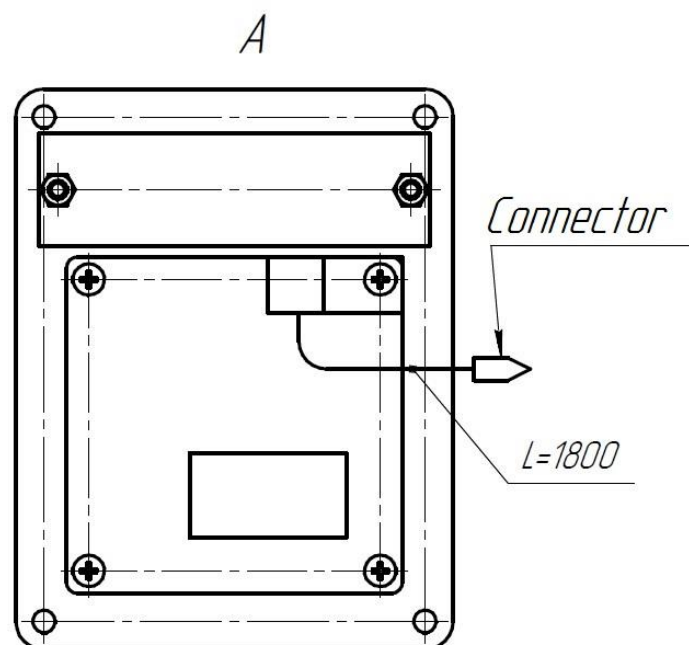
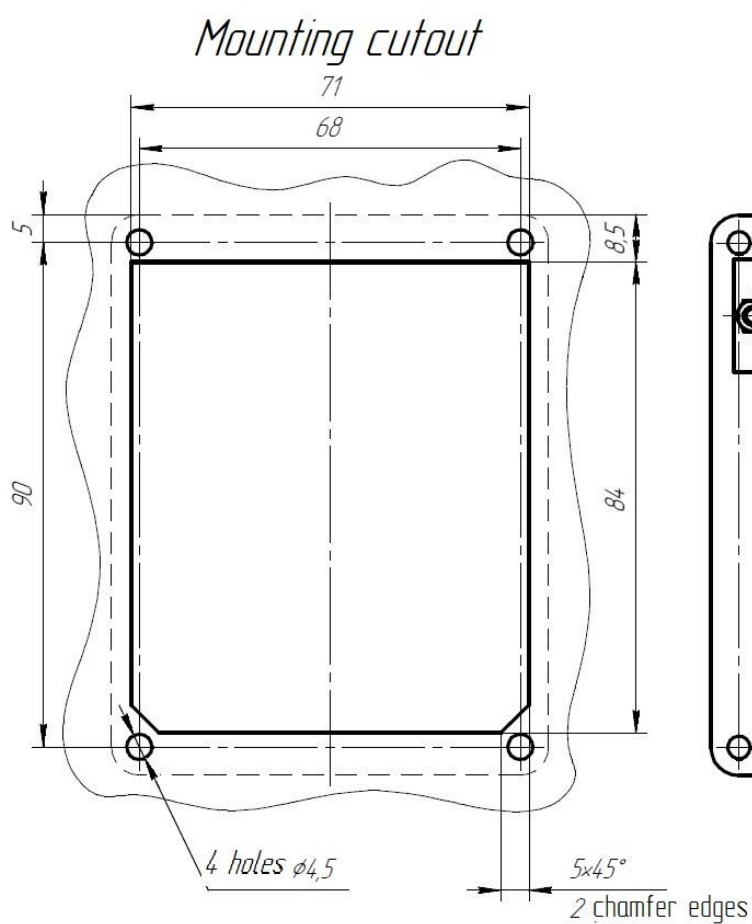
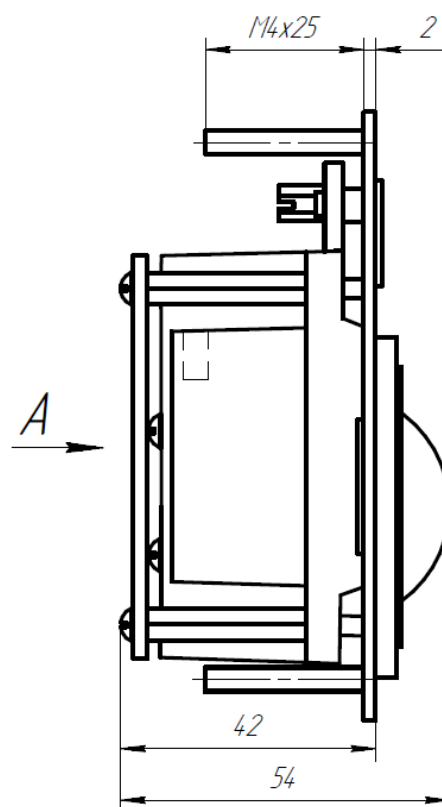
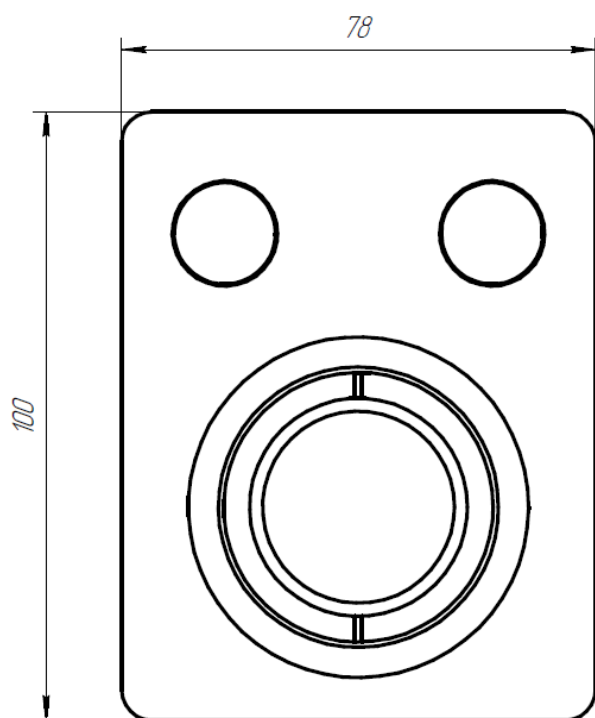
Certified as a part of Marine panel personal computer types MVPC-xx04, MVPC-xx05, MVPC-xx06, MVPC-xx07.

Technical specifications

Parameter	TBM-2368-02	TBM-2368-04	TBM-2378-01	TBM-2378-03
Type of connectors ¹⁾	standard	protective	protective	standard
Interface	USB		PS/2	
Number of manipulator keys, pcs.	2			
Key life, mln. clicks	min. 3			
Key travel, mm	0.5			
Keystroke force, N	4			
Type of manipulator	laser			
Ball diameter, mm	38			
Trackball life, mln. rotations	2			
Mounting	panel			
Protection degree	IP54 (front panel)			
Operating temperature, °C	−15 to +55			
Limiting temperature, °C	−60 to +70			
Weight, kg	0.6			
Trackball material	phenol resin			
Front panel material	stainless steel			

¹⁾ Applied protective connectors: 2PMT14KПН4ПН1B1B for USB interface, PC7TB for PS/2 interface.

Dimensional and installation specifications



TRACKBALL MANIPULATOR TYPES TBM-2379-01, TBM-2379-03, TBM-2369-02, TBM-2369-04



Certificates



Description

Trackball manipulator is a device intended to position the cursor on the screen by rotation of the ball installed inside the fixed housing.

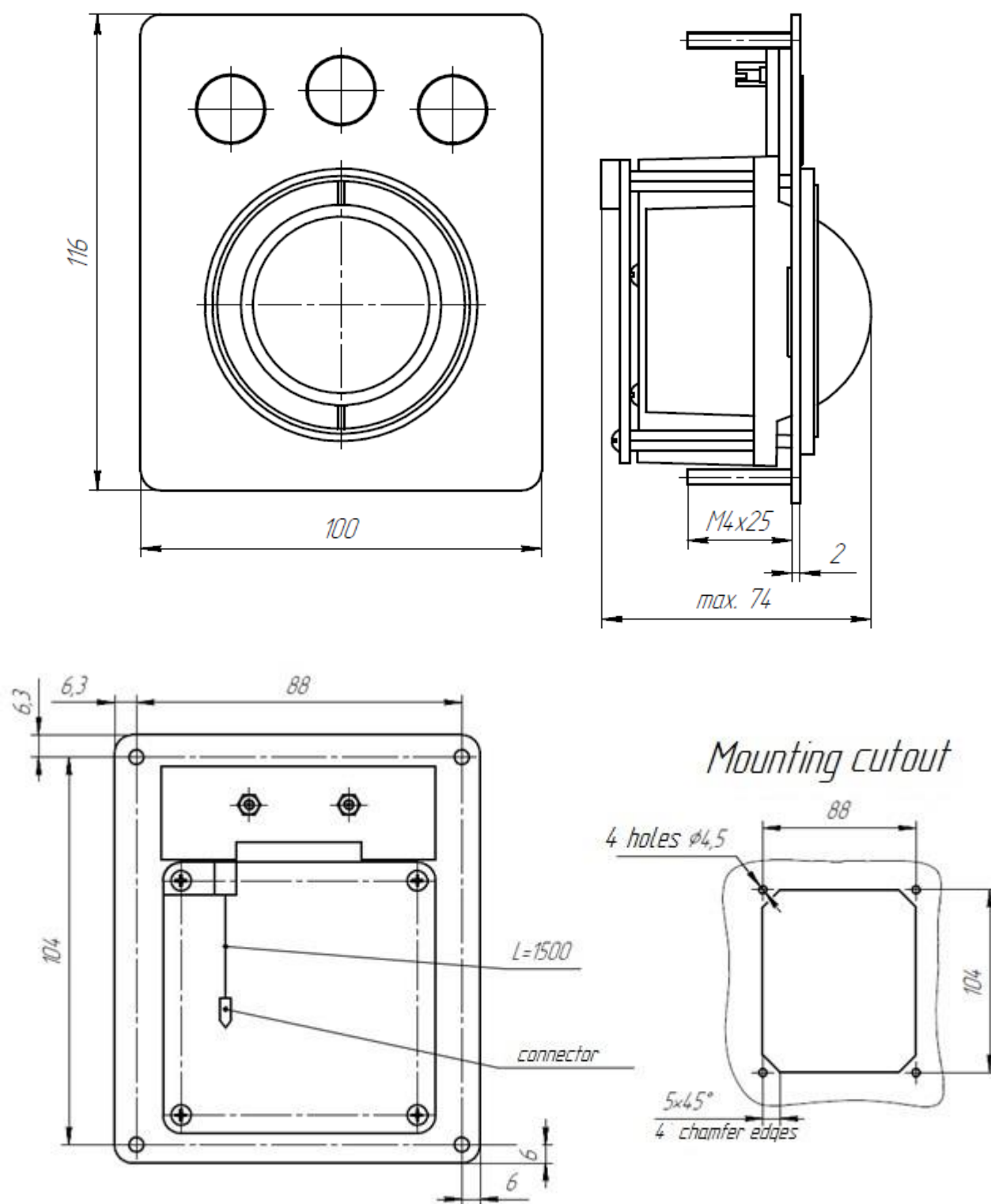
Certified as a part of Marine panel personal computer types MVPC-xx04, MVPC-xx05, MVPC-xx06, MVPC-xx07.

Technical specifications

Parameter	TBM-2369-02	TBM-2369-04	TBM-2379-01	TBM-2379-03
Type of connectors ¹⁾	standard	protective	protective	standard
Interface	USB		PS/2	
Number of manipulator keys, pcs.	3			
Key life, mln. clicks	min. 3			
Key travel, mm	0.5			
Keystroke force, N	4			
Type of manipulator	laser			
Ball diameter, mm	50			
Trackball life, mln. rotations	2			
Mounting	panel			
Protection degree	IP54 (front panel)			
Operating temperature, °C	−15 to +55			
Limiting temperature, °C	−60 to +70			
Weight, kg	0.6			
Trackball material	phenol resin			
Front panel material	stainless steel			

¹⁾ Applied protective connectors: 2PMT14KПH4III1B1B for USB interface, PC7TB for PS/2 interface.

Dimensional and installation specifications



TRACKBALL MANIPULATOR TYPES TBM-1478-01, TBM-1478-03, TBM-1468-02, TBM-1468-04



Certificates



Description

Trackball manipulator is a device intended to position the cursor on the screen by rotation of the ball installed inside the fixed housing.

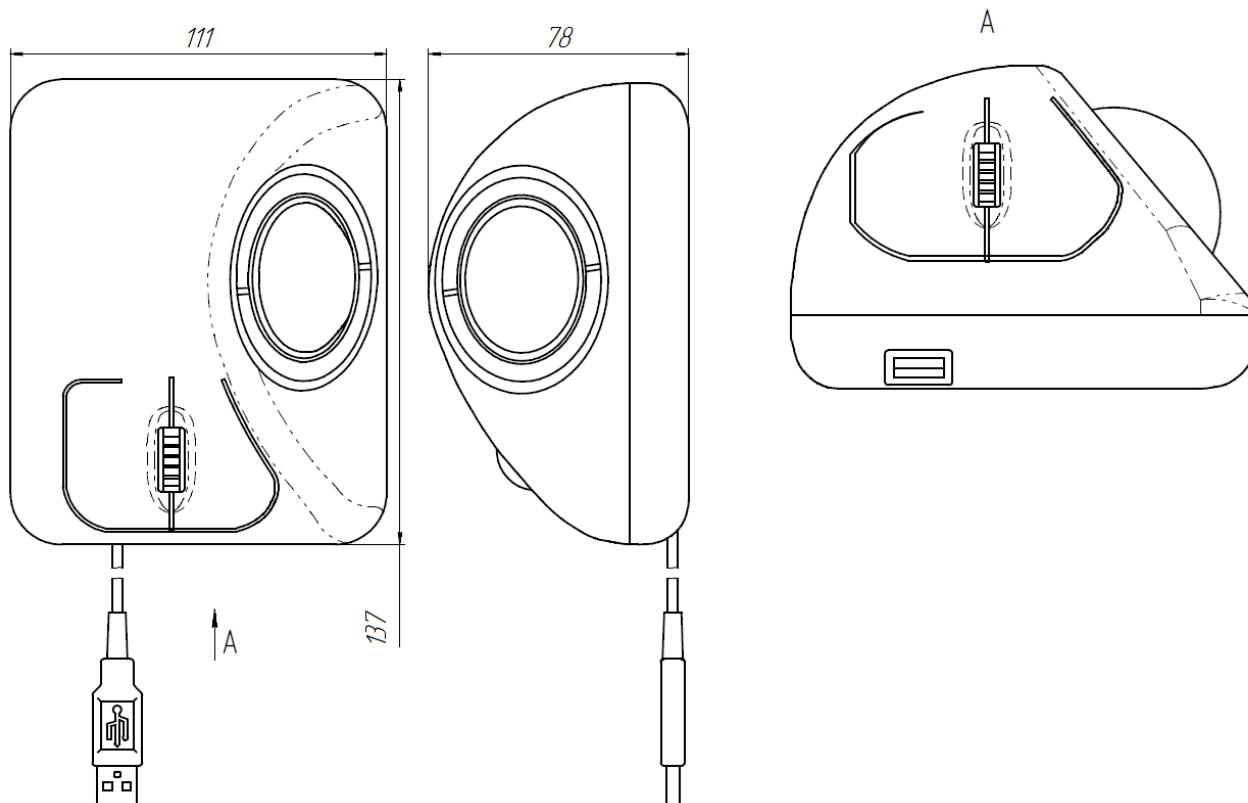
Certified as a part of Marine panel personal computer types MVPC-xx04, MVPC-xx05, MVPC-xx06, MVPC-xx07.

Technical specifications

Parameter	TBM-1468-02	TBM-1468-04	TBM-1478-01	TBM-1478-03
Type of connectors ¹⁾	standard	protective	protective	standard
Interface	USB		PS/2	
Number of manipulator keys, pcs.	3			
Key life, mln. clicks	min. 1			
Key travel, mm	0.3			
Keystroke force, N	1.5			
Type of manipulator	infrared			
Ball diameter, mm	50			
Mounting	panel			
Protection degree	IP54 (front panel)			
Operating temperature, °C	−15 to +55			
Limiting temperature, °C	−60 to +70			
Weight, kg	0.5			
Housing material	epoxy plastic, ABS plastic			

¹⁾ Applied protective connectors: 2PMT14KIIIH4III1B1B for USB interface, PC7TB for PS/2 interface.

Dimensional and installation specifications



TRACKBALL MANIPULATOR TYPE TBM-23678



Certificates



Description

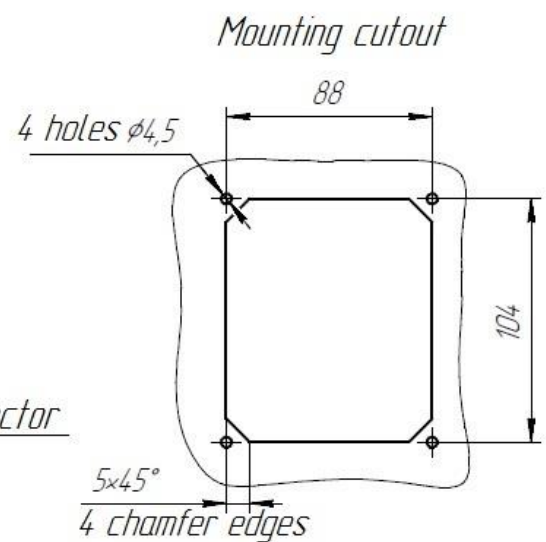
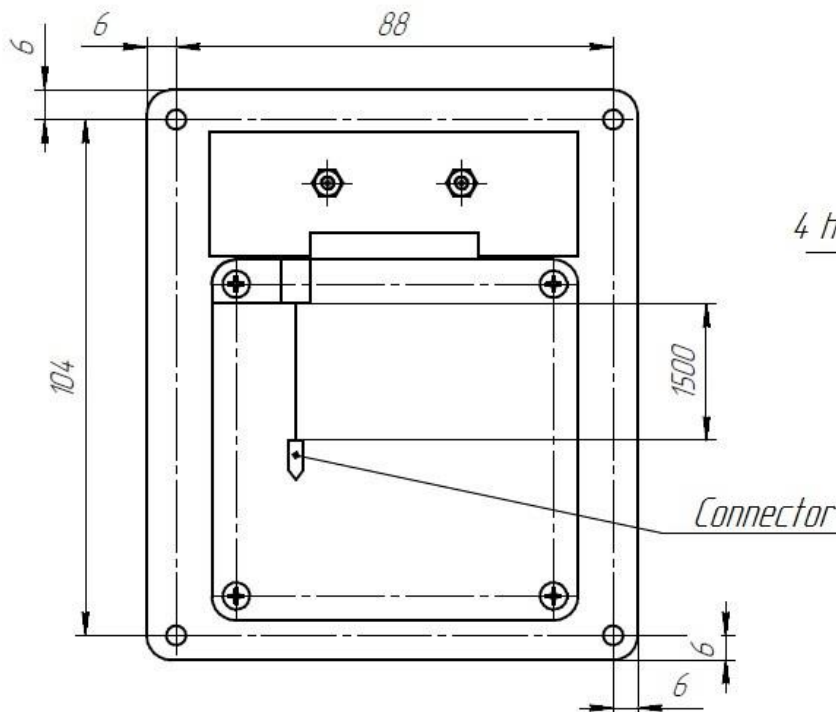
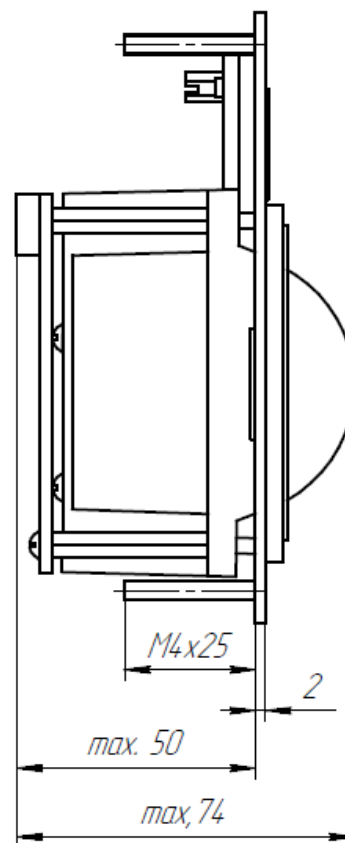
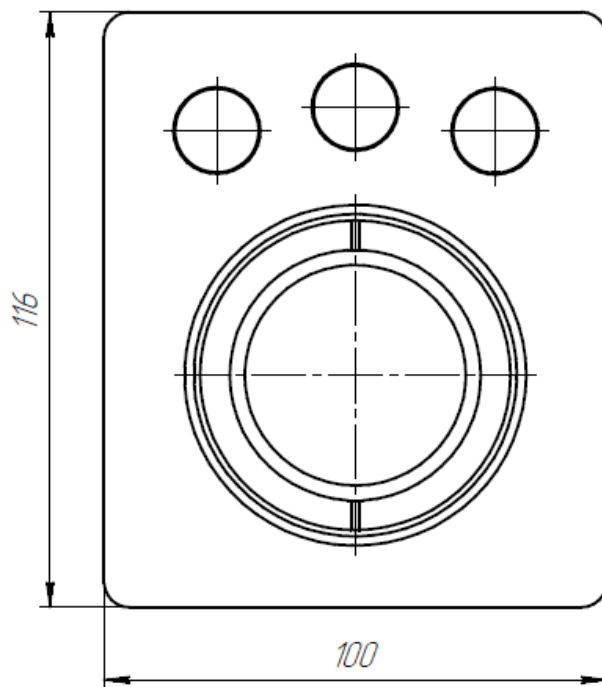
Trackball manipulator is a device intended to position the cursor on the screen by rotation of the ball installed inside the fixed housing.

Certified as a part of Marine panel personal computer types MVPC-xx04, MVPC-xx05, MVPC-xx06, MVPC-xx07.

Technical specifications

Parameter	TBM-23678-02
Type of connectors	standard
Interface	USB PS/2
Number of manipulator keys, pcs.	3
Key life, mln. clicks	min. 1
Key travel, mm	1.3
Keystroke force, N	4
Manipulator type	mechanical
Ball diameter, mm	50
Trackball life, mln. rotations	2
Mounting	panel
Protection degree	IP54 (front panel)
Operating temperature, °C	–15 to +55
Limiting temperature, °C	–60 to +70
Weight, kg	0.6
Trackball material	phenol resin
Front panel material	stainless steel

Dimensional and installation specifications



TOUCHPAD MANIPULATOR TYPES TCM-2379-01, TCM-2379-03, TCM-2369-02, TCM-2369-04



Certificates



Description

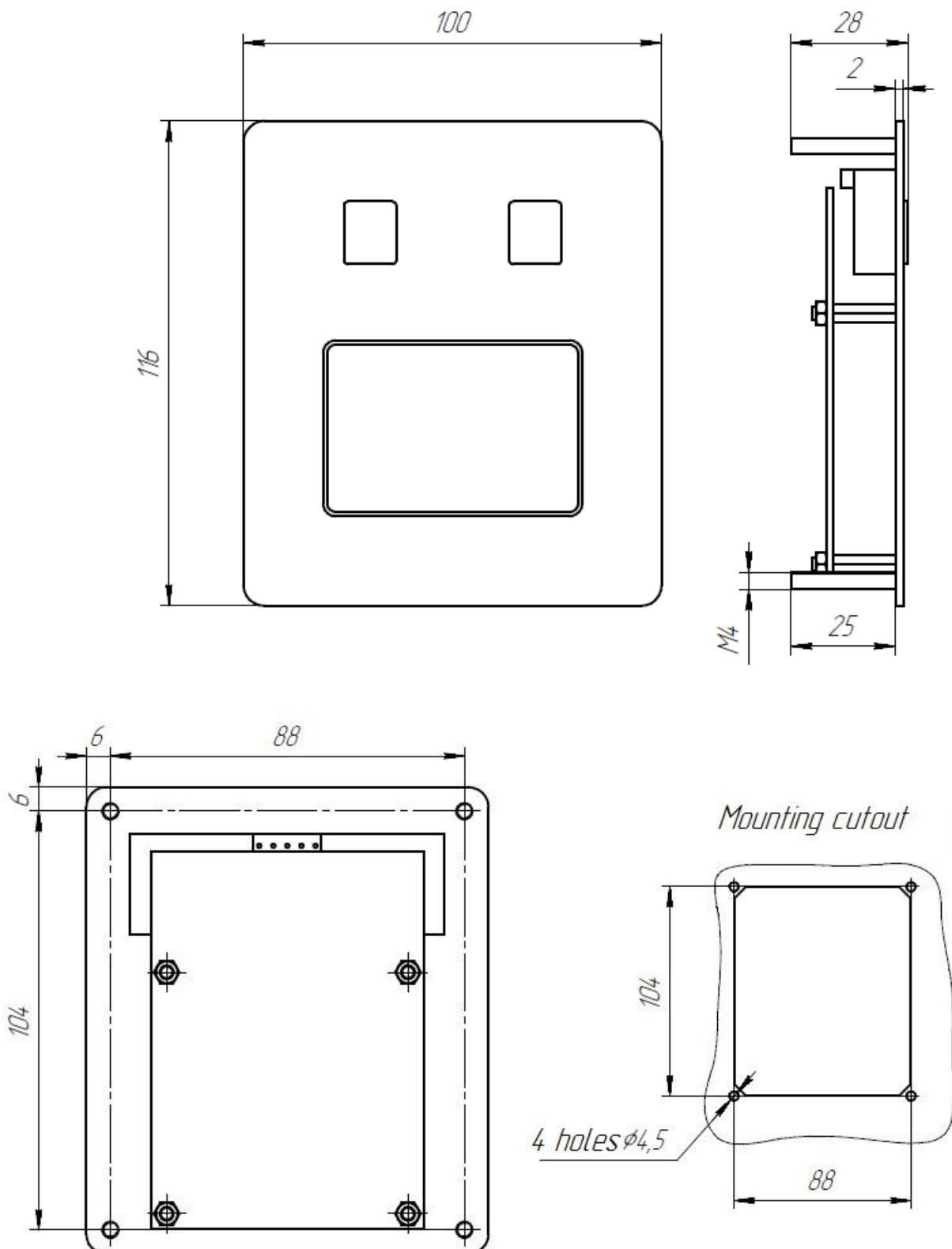
Touchpad manipulator is a pointing input device intended to control the cursor and input commands. Certified as a part of Marine panel personal computer types MVPC-xx04, MVPC-xx05, MVPC-xx06, MVPC-xx07.

Technical specifications

Parameter	TCM-2369-02	TCM-2369-04	TCM-2379-01	TCM-2379-03
Type of connectors ¹⁾	standard	protective	protective	standard
Interface	USB		PS/2	
Number of manipulator keys, pcs.	2			
Key life, mln. clicks	min. 3			
Key travel, mm	0.5			
Keystroke force, N	4			
Type of manipulator	capacitive			
Active area, mm	55x39			
Resolution, dpi	100 - 300			
Mounting	panel			
Protection degree	IP54 (front panel)			
Operating temperature, °C	–15 to +55			
Limiting temperature, °C	–60 to +70			
Weight, kg	0.4			
Front panel material	stainless steel			

¹⁾ Applied protective connectors: 2PMT14KПН4ПН1B1B for USB interface, PC7TB for PS/2 interface.

Dimensional and installation specifications



COMPUTER MOUSE TYPES M-1568-02, M-1568-04



Certificates



Description

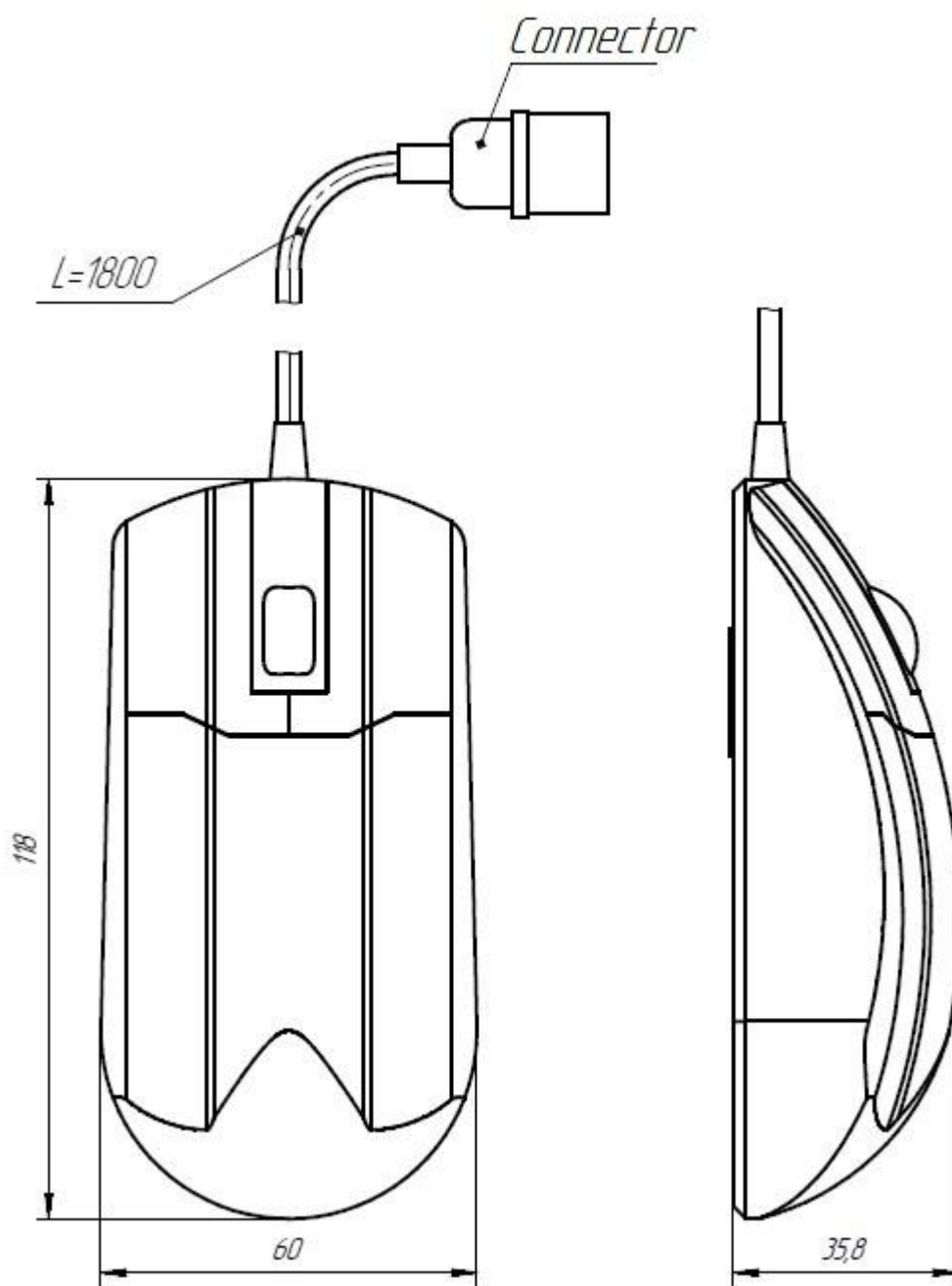
Computer mouse is a pointing device intended to control the cursor and input commands. To control cursor, move the mouse on the flat surface; to input the commands, press the mouse keys, scroll or press the mouse wheel.

Certified as a part of Marine panel personal computer types MVPC-xx04, MVPC-xx05, MVPC-xx06, MVPC-xx07.

Technical specifications

Parameter	M-1568-02	M-1568-04
Type of connectors	standard	standards
Interface	USB	
Number of mouse keys, pcs.	2	
Key life, mln. clicks	min. 10	
Type of mouse	laser	
Resolution, dpi	1000	
Mounting	desktop	
Protection degree	IP54	
Operating temperature, °C	-15 to +55	
Limiting temperature, °C	-60 to +70	
Weight, kg	0.16	
Material	ABS plastic	

Dimensional and installation specifications



FOR NOTES