



For other options or further information please contact your local sales office.

Product Profile

The W.series mechanical tactile keyboards are designed to operate in hostile environments, making them ideal for applications in industrial and public areas.

Technical data see page 163

- All metal construction (chromed Zamak keys and brushed stainless steel for the front plate)
- Laser engraving ensuring good and long term legibility
- High resistance to vandalism: up to 10J
- Anti pull-off keys
- Sealed against liquid penetration to IP67
- Top or back mounting
- PS2 or USB connection
- Environment: PS2, Win NT4, 98 SE, ME, 2000 PRO Pack II, XP
- With or without pointing device: Standard or optical trackball and touchpad
- Available in different language layouts with standard or customised markings

Rugged mechanical keyboard



Alphanumeric keyboard, back mounting, 63 keys, layouts in English, German, French and US English

Part No.	Layout	Interface
W.630KW.S10	English	PS2
W.630DW.S10	German	PS2
W.630FW.S10	French	PS2
W.630UW.S10	US English	PS2
W.630KW.U10	English	USB
W.630DW.U10	German	USB
W.630FW.U10	French	USB
W.630UW.U10	US English	USB



Alphanumeric keyboard, top mounting, 63 keys, layouts in English, German, French and US English

Part No.	Layout	Interface
W.630KW.S11	English	PS2
W.630DW.S11	German	PS2
W.630FW.S11	French	PS2
W.630UW.S11	US English	PS2
W.630KW.U11	English	USB
W.630DW.U11	German	USB
W.630FW.U11	French	USB
W.630UW.U11	US English	USB

Rugged mechanical keyboard



Alphanumeric keyboard, stainless steel trackball, 2 clicks, back mounting, 65 keys, layouts English, German, French and US English

Part No.	Layout	Interface
W.65BKW.S10	English	PS2
W.65BDW.S10	German	PS2
W.65BFW.S10	French	PS2
W.65BUW.S10	US English	PS2
W.65BKW.U10	English	USB
W.65BDW.U10	German	USB
W.65BFW.U10	French	USB
W.65BUW.U10	US English	USB



Alphanumeric keyboard, stainless steel trackball, 2 clicks, top mounting, 65 keys, layouts English, German, French and US English

Part No.	Layout	Interface
W.65BKW.S11	English	PS2
W.65BDW.S11	German	PS2
W.65BFW.S11	French	PS2
W.65BUW.S11	US English	PS2
W.65BKW.U11	English	USB
W.65BDW.U11	German	USB
W.65BFW.U11	French	USB
W.65BUW.U11	US English	USB

For other options or further information please contact your local sales office.



Rugged mechanical keyboard



Alphanumeric keyboard, top mounting, 106 keys, 6 rows/MF2, PS2 and USB output types, English, German, French and US English layouts

Part No.	Language	Interface
W.106FKP.X11	English	PS2/USB
W.106FDP.X11	German	PS2/USB
W.106FFP.X11	French	PS2/USB
W.106FUP.X11	US English	PS2/USB



Alphanumeric keyboard, top mounting, 91 keys, stainless steel track ball, 6 rows/MF2, 2 clicks, PS2 and USB output types, English, German, French and US English layouts

Part No.	Language	Interface
W.91BKP.X11	English	PS2/USB
W.91BDP.X11	German	PS2/USB
W.91BFP.X11	French	PS2/USB
W.91BUP.X11	US English	PS2/USB



Alphanumeric keyboard, top mounting, 91 keys, phenolic track ball, 6 rows/MF2, 2 clicks, PS2 and USB output types, English, German, French and US English layouts

Part No.	Language	Interface
W.91CKP.X11	English	PS2/USB
W.91CDP.X11	German	PS2/USB
W.91CFP.X11	French	PS2/USB
W.91CUP.X11	US English	PS2/USB

Rugged mechanical keyboard



Alphanumeric keyboard, top mounting, 91 keys, optical trackball, 6 rows/MF2, 2 clicks, PS2 and USB output types, English, German, French and US English layouts

Part No.	Language	Interface
W.91DKP.X11	English	PS2/USB
W.91DDP.X11	German	PS2/USB
W.91DFP.X11	French	PS2/USB
W.91DUP.X11	US English	PS2/USB

Trackball Module



Stainless steel trackball module, 2 clicks, front mounting, 38 mm diameter

Part No.	Interface
W.02B01.S11	PS2
W.02B01.U11	USB



For other options or further information please contact your local sales office.

Product Profile

The W.series is a high quality, vandal resistant keypad range especially designed to meet the needs of banking markets, public environment applications and other industrial applications.

Technical data see page 163

- High impact resistance up to 10J
- All metal construction (chromed Zamak keys and brushed stainless steel for the front plate)
- Anti pull-off keys
- IP67 sealing when mounted
- 4, 16 or 20 key versions
- Illuminated versions available

Rugged keypad



Keypad with 4 blank keys



Keypad, 4 keys engraved with arrows and black paint in-fill

Part No.	Contact terminals	Part No.	Contact terminals
W.04000.P01	Pin Header	W.0400X.038	Pin Header

Rugged keypad



Keypad, 4 yellow illuminated keys, A-D



Customised keypad capabilities. Customisation possible for layouts and key markings. For further details please contact your local sales office.

Part No.	Contact terminals
W.0400X.016	Pin Header

Keyboard standard layout

Material

Front plate

Brushed stainless steel 304 L

Keys

Zamak 5 with matt chrome finish

Printed circuit board

Epoxy resin (FR4), as per UL 94 V0

Contacts

Carbon pills

Carbon on Cu tracks

Track ball

Standard (opto-mechanical) Stainless steel or Phenolic Plastic

Optical Epoxy resin

Touch pad

Composite material

Mechanical characteristics

Tightening torque

50 Ncm for studs, front- and back mounting

Actuating force

1 N ... 3 N for single key 12x12 mm

3 N ... 6 N for double key 12x31 mm

Actuating travel

1.5 mm ±0.3 mm

Mechanical lifetime (keys)

4 Million cycles of operation per key

Track ball

Ball diameter 1.5"

Resolution 800 pulses per revolution

Touch pad

XY position sensing resolution 40 counts per mm

XY position reporting relative

Tracking speed maximum 1.016 m/s

Electrical characteristics

Operating voltage/-current

Operating voltage 5 VDC ±5%

Current rating 20 mA

Interface

	PS/2	USB
Windows	Win NT4 98SE ME 2000 Pack II XP Pro	98SE ME 2000 Pack II XP Pro

Note:

EAO cannot guarantee a full compatibility with every computer configuration. It is therefore recommended that prior investigation is carried out.

EMC approved, as per

EN 50081-1 Emission (residential environment)

EN 50082-1 Immunity (residential environment)

FCC part 15, class B

EN 60950 Safety

Electric strength

500 VAC, 50 Hz, 1 min.

Environmental conditions

Storage temperature

	PS/2 and USB
With alpha version	-40 °C ... +85 °C
With standard Trackball	-40 °C ... +85 °C
With optical Trackball	-25 °C ... +85 °C
With Touchpad	-25 °C ... +65 °C

Operating temperature

	PS/2	USB
With alpha version	-20 °C ... +80 °C	0 °C ... +70 °C
With standard Trackball	-10 °C ... +70 °C	0 °C ... +70 °C
With optical Trackball	0 °C ... +55 °C	0 °C ... +55 °C
With Touchpad	0 °C ... +55 °C	0 °C ... +55 °C

Front protection

	Static	Dynamic
Alpha version	IP67	IP67
Standard Trackball	IP65	IP54
Optical Trackball	IP67	IP67

Impact resistance

IK 09 (10 J) for alpha version and Trackball

IK 07 (2 J) for Touchpad

Shock resistance

(semi-sinusoidal)

3 axis, 150 m/s², puls width 11 ms, as per EN IEC 60512-4

Vibration resistance

(sinusoidal)

5 Hz ... 200 Hz, as per EN IEC 60512-4

Climate resistance

as per EN IEC 60512-6

Damp heat 21 days

Dry heat 10 days, +85 °C

Saline mist 96 hours

Approvals

Approbations

FCC

Declaration of conformity

CE

Keyboard MF2 layout

Material

Front plate

Brushed stainless steel 304 L

Keys

Zamak 5 with matt chrome finish

Printed circuit board

Epoxy resin (FR4), as per UL94 V0

Contacts

Carbon pills

Cu tracks on PCB

Membrane

Silicone, as per UL94 HB, with carbon pills

Track ball

Standard (opto-mechanical) Stainless steel or Phenolic Plastic

Optical Epoxy resin

Mechanical characteristics

Tightening torque

50 Ncm for studs, front mounting

Actuating force

~1 N ... 3 N for single key

~3 N ... 6 N for double and triple key

Actuating travel

1.5 mm ±0.3 mm

Mechanical lifetime (keys)

4 Million cycles of operation per key

Track ball

Ball diameter 38 mm

Electrical characteristics

Operating voltage/-current

Operating voltage 5VDC ±5%, via computer cable

Current rating 20 mA

Interface

PS/2 and USB versions Windows XP, XP Pro, 2000, 98SE, Linux

EMC approved, as per

EN 50081-1 Emission (residential environment)

EN 50082-1 Immunity (residential environment)

FCC part 15, class B

EN 60950 Safety

Electric strength

500 VAC, 50 Hz, 1 min.

Environmental conditions

Storage temperature

PS/2 and USB
With Pin pad -40 °C ... +85 °C

With standard Trackball -40 °C ... +85 °C

With optical Trackball -25 °C ... +85 °C

Operating temperature

PS/2 and USB

With Pin pad 0 °C ... +70 °C

With standard Trackball 0 °C ... +70 °C

With optical Trackball 0 °C ... +55 °C

Front protection

	Static	Dynamic
Pin pad version	IP67	IP67
Standard Trackball	IP65	IP54
Optical Trackball	IP67	IP67

Impact resistance

IK 09 (10 J)

Shock resistance

(semi-sinusoidal)

3 axis, 150 m/s², puls width 11 ms, as per EN IEC 60512-4

Vibration resistance

(sinusoidal)

5 Hz ... 200 Hz, as per EN IEC 60512-4

Climate resistance

as per EN IEC 60512-6

Damp heat 21 days, +40 °C

Dry heat 10 days, +85 °C

Saline mist 96 hours

Approvals

Approbations

FCC

Declaration of conformity

CE

Track ball module

Material

Front plate

Brushed stainless steel 304 L

Keys

Stainless steel

Track ball

Standard (opto-mechanical) Stainless steel or Phenolic Plastic

Optical Epoxy resin

Mechanical characteristics

Mechanical lifetime

>2 Million ball revolutions, standard versions

>1 Million ball revolution, optical version

1 Million cycles of operation per key

Track ball

Ball diameter 38 mm, 50 mm (optical version)

Resolution 800 pulses per revolution for standard Track ball

Resolution 1256 pulses per revolution for optical Track ball

Electrical characteristics

Operating voltage/-current

Operating voltage (standard version) 5VDC ±10%

Operating voltage (optical version) 3.6 ... 5.5 V

Current rating 110 mA typical / 150 mA max.

EMC approved, as per

EN 55022 Class B Emission (residential environment)

FCC CFR47 part 15 class B

EN 55024 Immunity (residential environment)

EN UL 60950 Safety

Environmental conditions

Storage temperature

-25 °C ... +85 °C

Operating temperature

0 °C ... +55 °C

Front protection

	Static	Dynamic
Button	IP65	IP65
Standard Trackball	IP65	IP54
Optical Trackball	IP67	IP67

Impact resistance

IK 09 (~10 J) Track ball 38 mm dia.

IK 08 (~5 J) Track ball 50 mm dia.

Climate resistance

as per EN IEC 60512-6

Damp heat 21 days

Dry heat 10 days, +85 °C

Saline mist 96 hours

Approvals

Declaration of conformity

CE

Keypad 4-keys and 16-keys

Material

Front plate

Brushed stainless steel 304 L

Keys

Zamak 5 with matt chrome finish

Printed circuit board

Epoxy resin (FR4), as per UL 94 V0

Contacts

Carbon pill

Cu tracks on PCB

Housing (4-key Keypad)

Acrylnitril-Butadien-Styrol (ABS), as per UL 94 V0

Mechanical characteristics

Tightening torque

50 Ncm for studs

Actuating force

1 N ... 3 N for single key 12x12 mm

3 N ... 6 N for double key 12x31 mm

Actuating travel

1.5 mm ±0.3 mm

Mechanical lifetime (keys)

4 Million cycles of operation per key

Environmental conditions

Storage temperature

-30 °C ... +85 °C

Operating temperature

-25 °C ... +85 °C

Front protection

IP67 as per IEC 60529, when mounted

Climate resistance

as per EN IEC 60512-6

Damp heat 21 days, +40 °C

Dry heat 10 days, +85 °C

Saline mist 96 hours

Impact resistance

IK 09 (10 J)

Shock resistance

(semi-sinusoidal)

3 axis, 150 m/s², puls width 11 ms, as per EN IEC 60512-4

Vibration resistance

10 Hz, 100 m/s², 1.5 mm, as per EN IEC 60512-4

Electrical characteristics

Operating voltage/-current

Nominal 5 V, 5 mA

Maximum voltage 24 V

Minimum voltage 0.5 V

Minimum current 0.1 mA

Illumination

Current consumption for single LED:

20 mA at 2.1 V (yellow and green)

20 mA at 1.9 V (red)

10 mA at 3.4 V (blue)

Isolation resistance

≥1000 MΩ at 100 VDC

Contact resistance

≤200 Ω

Electrical life

4 Million cycles of operation per key

Electrostatic breakdown value

5 kV

Electric strength

1500 Vrms, 50 Hz, 1 min., as per EN IEC 60512-2

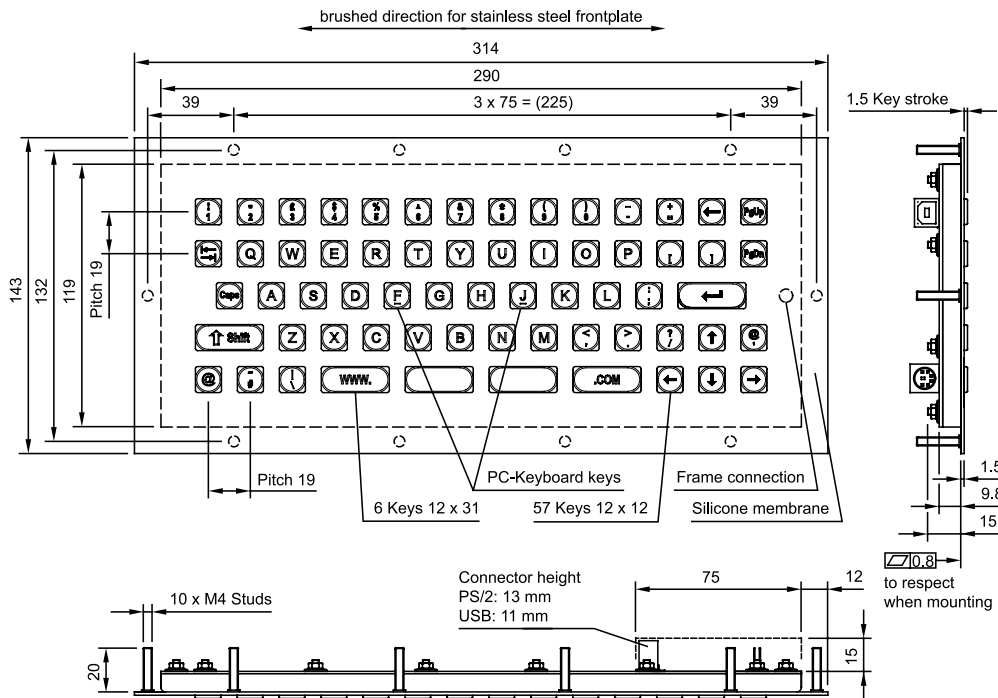
Approvals

Declaration of conformity

CE

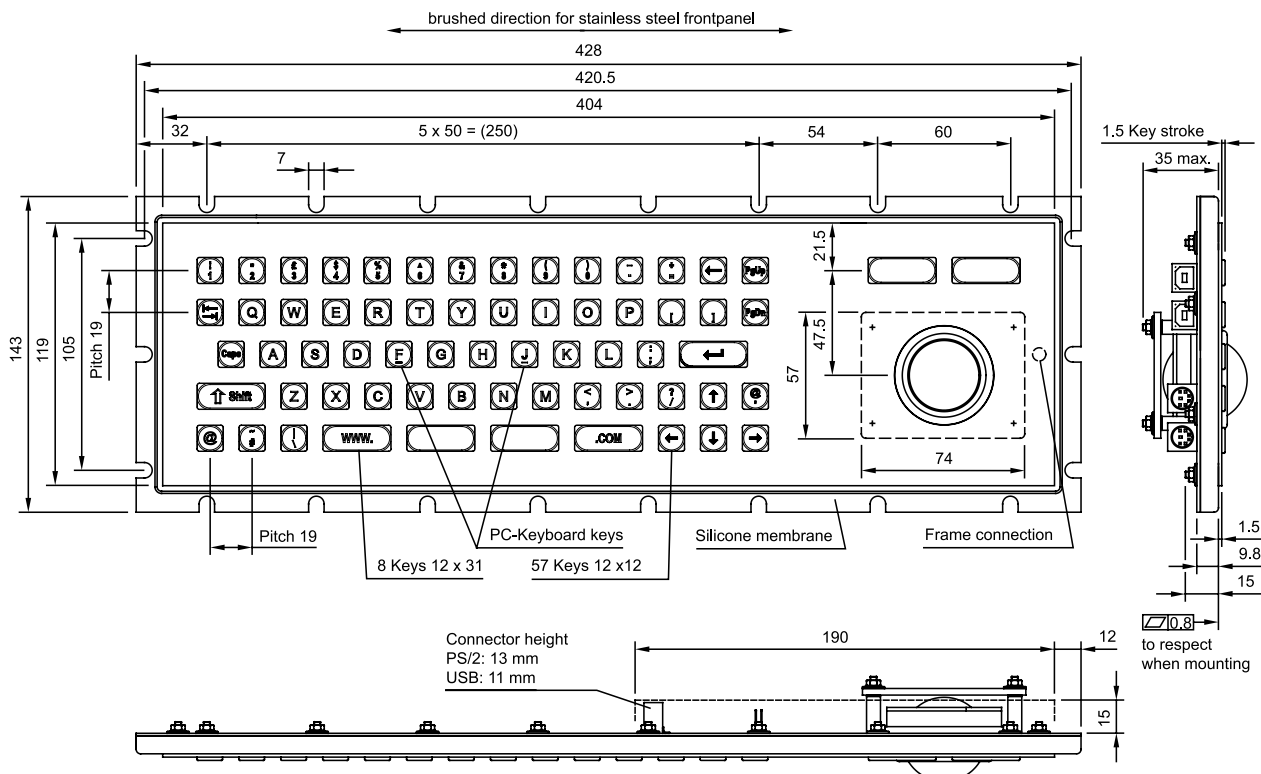
Keyboard

Alphanumeric Mechanical 63 Keys Top Mount



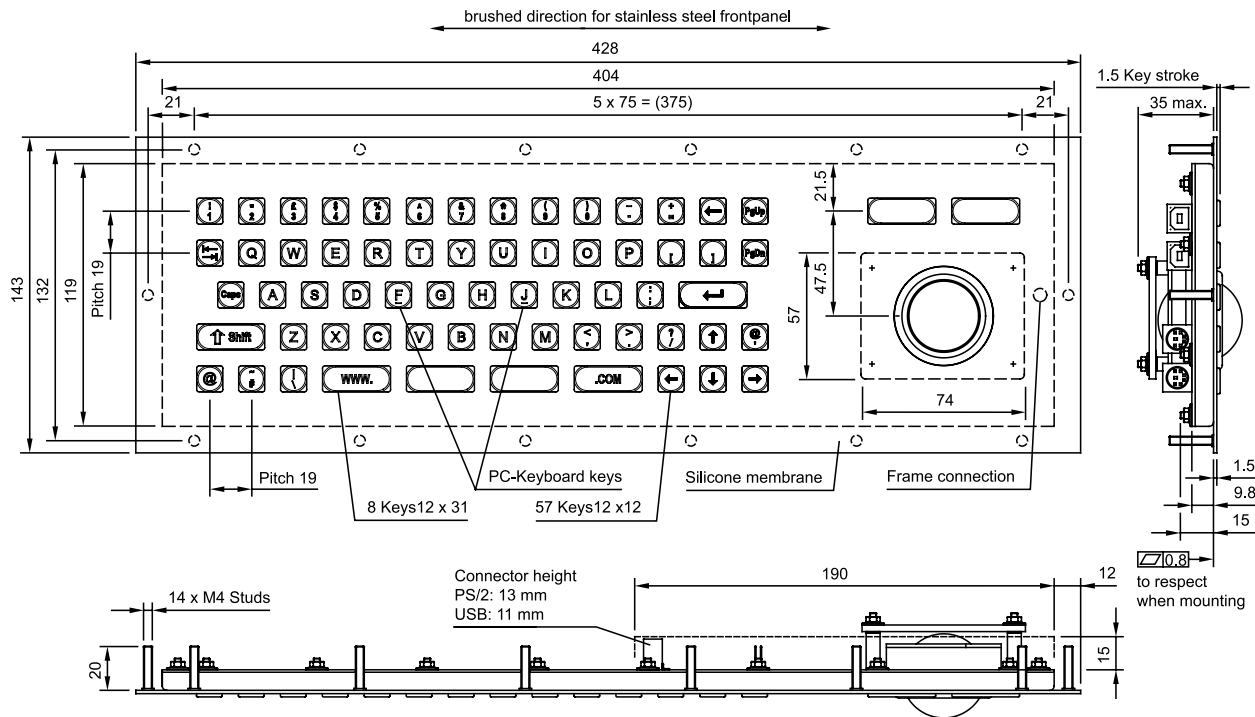
Keyboard

Alphanumeric Mechanical 65 Keys Back Mount



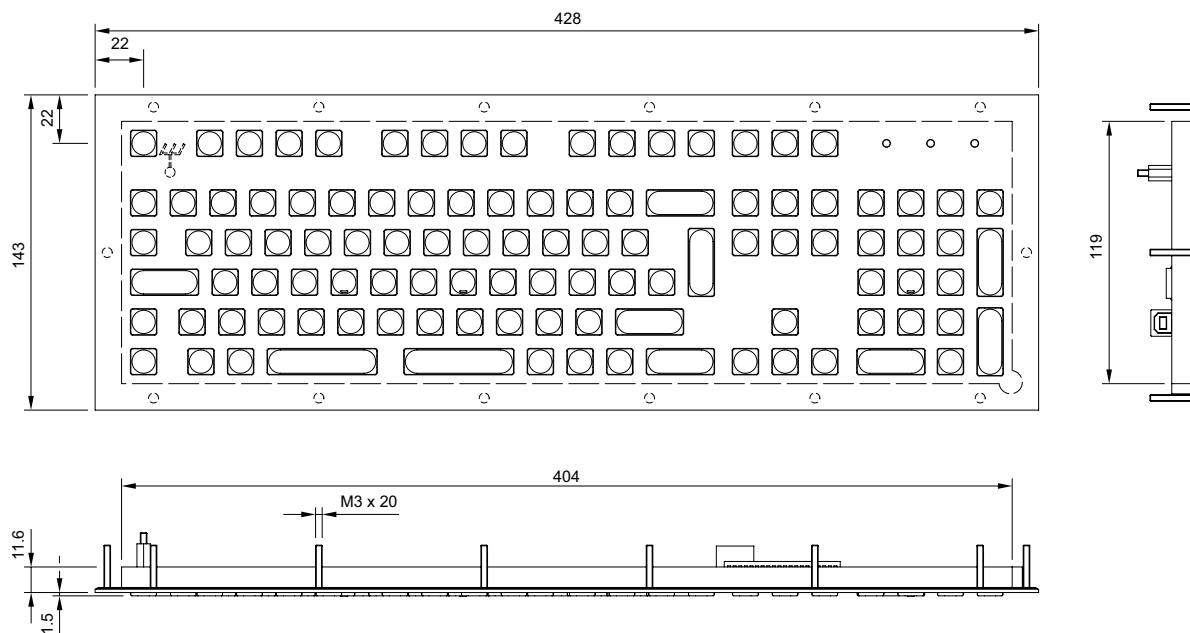
Keyboard

Alphanumeric Mechanical 65 Keys Top Mount



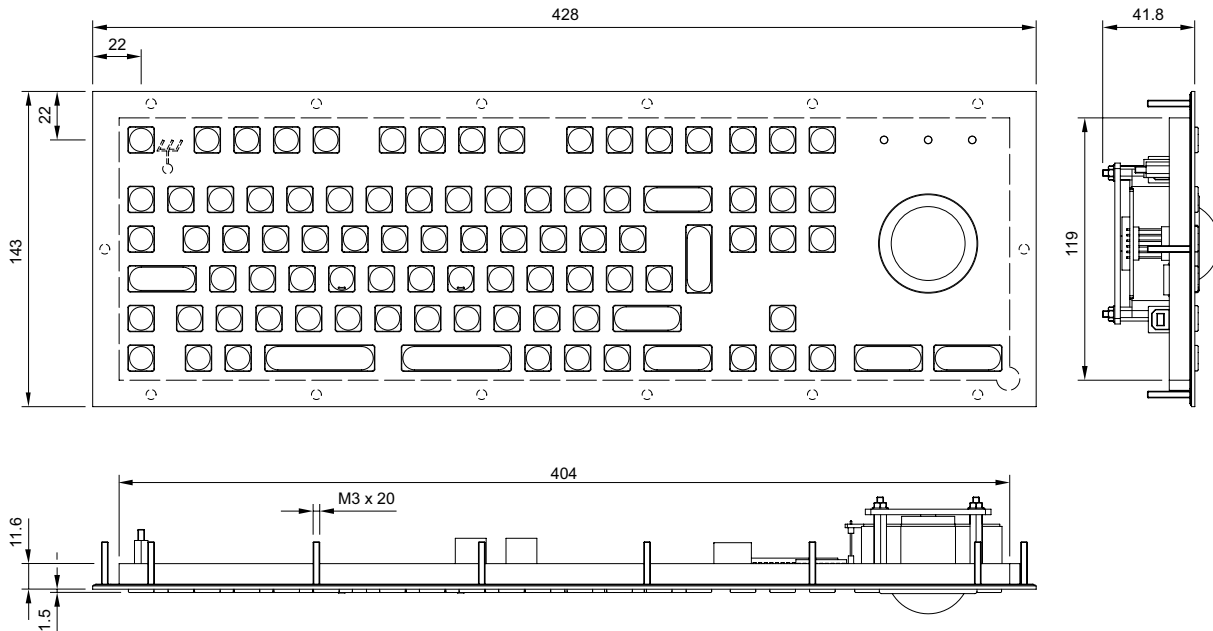
Keyboard

Alphanumeric Mechanical 106 Keys Top Mount



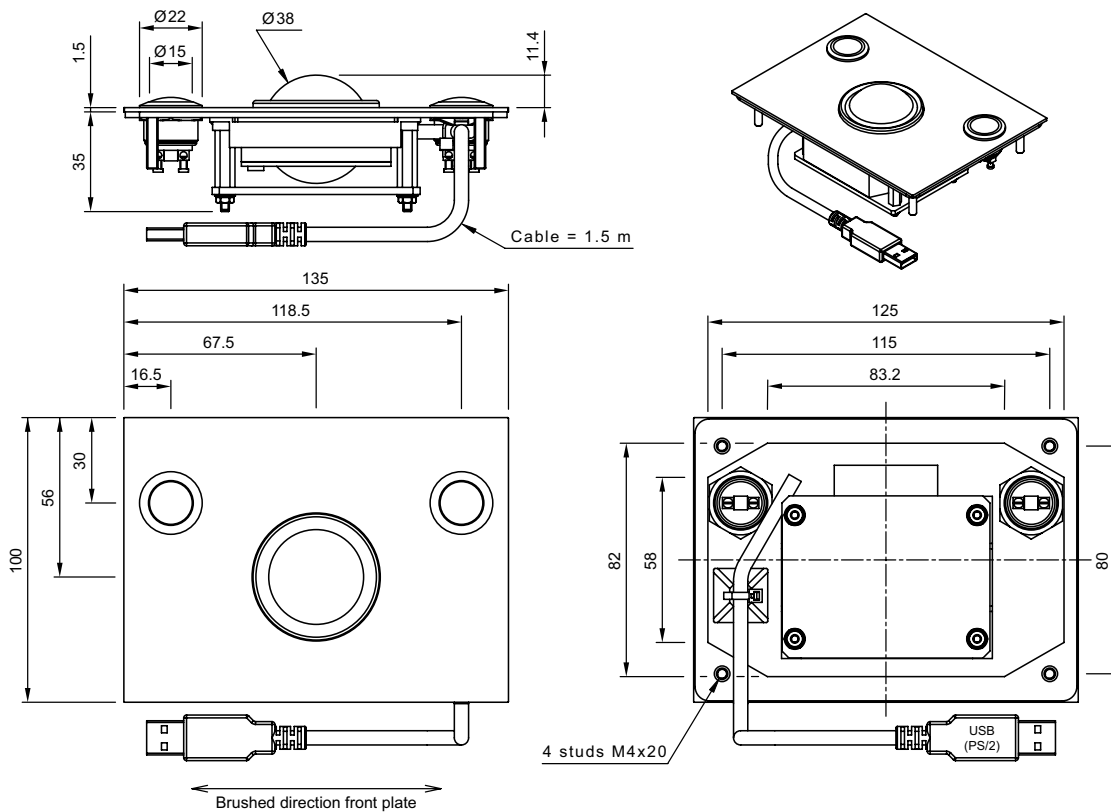
Keyboard

Alphanumeric Mechanical 91 Keys Top Mount, Stainless Steel Trackball. Phenolic Trackball Optical Trackball



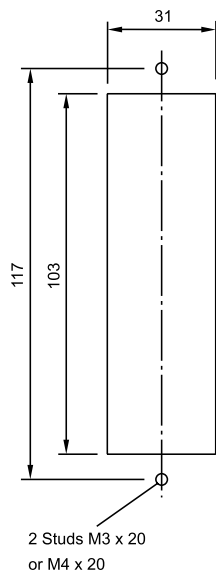
Trackball Module

Stainless Steel Trackball Top Mount



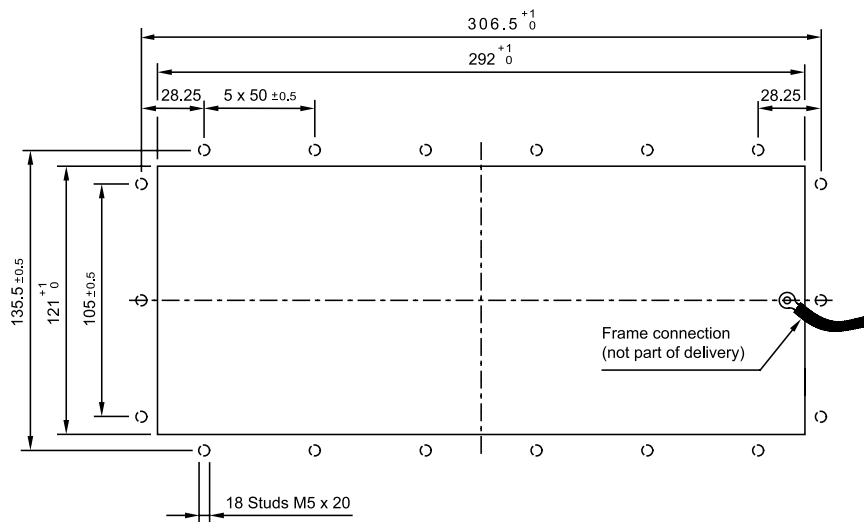
Cut-outs, Keypad

1 x 4 keypad



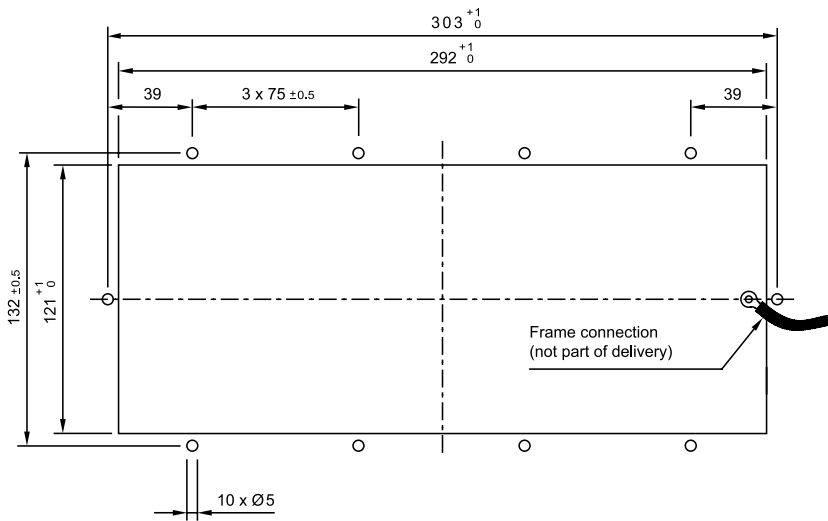
Cut-outs, Keyboard

Alphanumeric Mechanical 63 Keys Back Mount



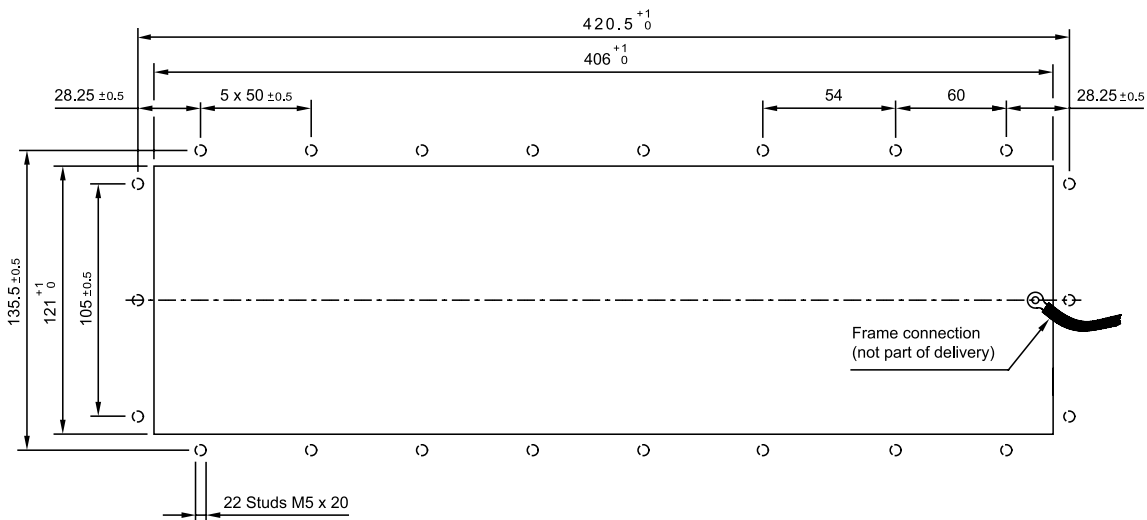
Cut-outs, Keyboard

Alphanumeric Mechanical 63 Keys Top Mount



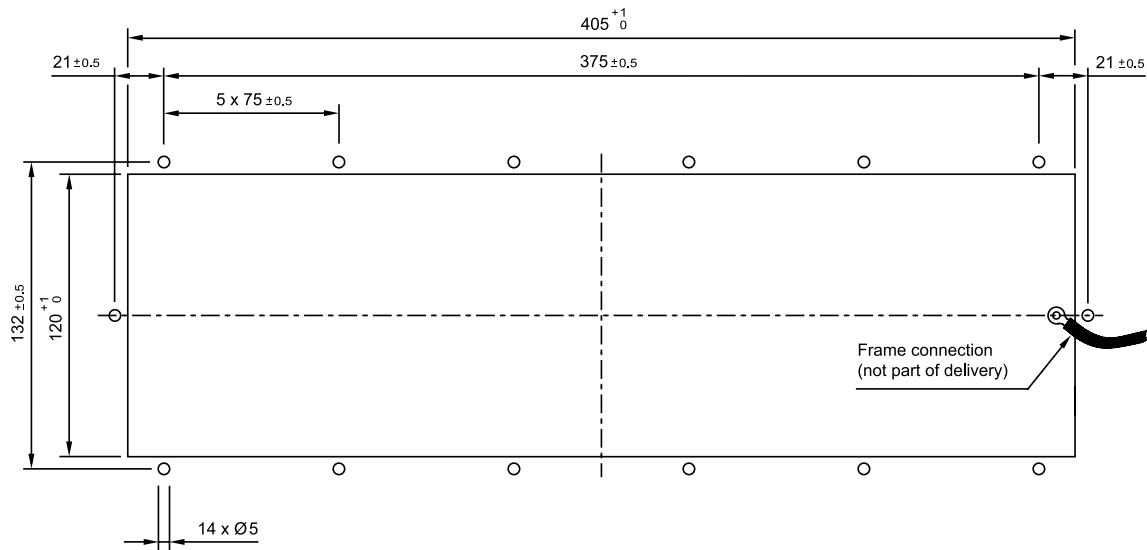
Cut-outs, Keyboard

Alphanumeric Mechanical 65 keys Back Mount



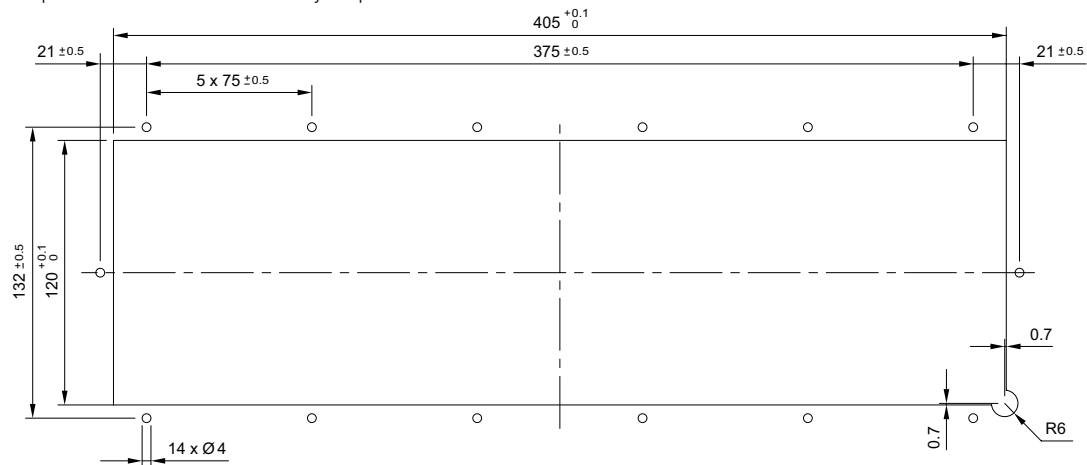
Cut-outs, Keyboard

Alphanumeric Mechanical 65 keys Top Mount



Cut-outs, Keyboard

Alphanumeric Mechanical 91 Keys Top Mount, Stainless Steel Trackball. Phenolic Trackball Optical Trackball
Alphanumeric Mechanical 106 keys Top Mount



Cut-outs, Trackball

Stainless Steel Trackball Top Mount

