

Technical Information



MC 80
MC 84
MC 128

The **Preh MC Series** are space saving, high quality, keyboards providing 80, 84 and 128 key positions, which can be configured and programmed to meet customized needs. The **MC128** is also available in an alphanumeric layout.

The universal, modular construction of these compact keyboards permits easy adaptation to specific system requirements. The magnetic card reader (MSR), LCD display, keylock and touch pad (keylock not available on the MC84), which can be added in any desired combination, provide a user-friendly interface along with an ergonomic design.

The data from the MSR and keylock is transmitted over the keyboard PS/2 interface. The touch pad data is transmitted over a separate PS/2 interface.

All configurable key positions can be populated with your choice of single, double and quadruple keys or with dead tiles, which disable a position.

Key values are assigned by programming the keyboard via the **Preh WinProgrammer** software (DOS version also available).

The **MC Series** keyboards are compatible with all common operating systems, such as DOS, WINDOWS, UNIX, OS/2, LINUX, etc. No drivers are required.

The keyboards are designed for PS/2 interface. RS 232 interface is also available in special request.

All **MC series** keyboards come equipped with a 6-pole Mini-Din daisy-chain socket that can be used to connect an additional keyboard for service purposes. In addition, these keyboards are equipped with an 8-pole Mini-Din connector, which allows the use a detachable cable.

Due to their efficient designs and compact size, only minimum space is required for these keyboards.



MC80 Row and Column

Optional Features

Magnetic Stripe Reader (MSR)

The MSR works with all magnetic cards. The MSR data is transmitted over the keyboard interface. All information on the card is read.

- **Bi-directional MSR:** magnetic cards can be swiped in either direction.
- **MSR Tracks:** 3 tracks, including the ability to read drivers license format AAMVA and CADL.
- **Expected Magnetic-head life:** 500,000 passes.
- **Error rate:** less than 0.5%.
- **Power consumption:** less than 9mA.
- **Status LED:** provides confirmation of a correct read.
- **Headers and terminators:** are programmable.

- **Complaint with:** ISO 7810, ISO 7811, ISO 7812, and ISO 7813.

Touch Pad

Can be mounted in a 3x4 key. Saves space and is rugged enough for POS use. Allows mouse movement simply by dragging a fingertip across the surface. Works as any standard mouse; no additional drivers are necessary.

- Fully compatible with standard Windows 95, 98, NT 4.0, 2000, XP and Linux drivers.
- Capable of meeting NEMA-4 requirements.
- EMI tolerant.
- Capacitive-sensing technology.
- Only available on MC128

LCD-Display

- **Current consumption**
Max 250mA

- **Controlled** over the keyboard interface
- **Display**
 - 2x24 (5mm) character.
 - 2x20 (9mm) character available in special order
- **Yellow-green** Color.
- **Articulation** +/-15 Degrees

Keylock

- **5 position**
- **Headers and terminators** are programmable
- **IP-54 rating** for dust and liquid protection.
- Lifetime: 20,000 maneuvers
- **Resistance of the stops** 10 kg/cm
- **Drive couple** <1.5 kg/cm

Daisy-Chain Port

The standard keyboards are equipped with 6 pin mini-DIN connections to allow the connection of an additional standard keyboard for servicing.



MC128 Row and Column

Additional Modules

	MSR	Keylock	Touch Pad	Alpha Layout	LCD Display
MC 128	✓	✓	✓	✓	✓
MC 84	✓		✓		✓
MC 80	✓	✓	✓	✓	✓

✓ Option available

Drivers and Tools

- OPOS driver for MSR, Keylock, LCD Display and keyboard.
- JavaPOS driver (Windows and Linux) for MSR, Keylock, LCD Display and keyboard.
- Programming tools for Windows and DOS.

Programming

The keyboards can be programmed online or via Preh WinProgrammer software (DOS version also available).

Online Programming

The keyboard is programmed with another keyboard (101, etc.) connected to the daisy-chain socket. In this mode each key can be programmed up to eight levels. This method does not require additional software and is independent of the operating system.

Preh WinProgrammer

- User-friendly interface.
- Key assignments can be made available, edited and copied to a file.
- 128 programmable levels.
- DOS version available

Technical Data

Mechanics

- **Dimensions:**
 - MC80WX: 335x164mm;
 - MC84WX: 290x192mm;

- MC128WX: 335x220mm;
- **Color:** gray-white (similar to RAL 9002) and black.

Keys

Key spacing:

19mm

Actuation travel:

3,5 mm

Actuation force:

0,6 N

Impact stability:

10 N, 1 min.

Lifetime:

3 million cycles per key

Bounce Time

5ms max.

Switching load

30V max/ 20mAh max.

Contact Resistance

800 ohm max.

Colors:

- Grey-white.
- Black.
- Additional colors on request.

Electronics

Supply voltage: + 5 V ± 5%

Current consumption

60 mA (without options)

Internal keyboard memory

Contain 8 KB EEPROM

Data format/Interfaces

- PS/2
- RS 232 (optional)

Auto repeat All keys, repeat frequency and delay time are programmable.

4 Status LEDS

- Caps Lock
- Scroll Lock
- Num Lock
- MSR status

Buzzer

Generates acoustic signals (key click).

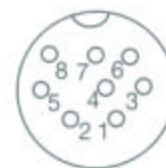
Cables

PS/2, 2 meters long shielded.

PC Pin Assignment

(8 Pole Mini-Din connector)

- 1 NC
 - 2 Clock
 - 3 +5V
 - 4 Data
 - 5 GND
 - 6 NC
 - 7 NC
 - 8 NC
- Shielding



Daisy-chain socket

Assignment

(6 Pole Mini-Din connector)

- 1 Data
 - 2 NC
 - 3 GND
 - 4 +5V
 - 5 Clock
 - 6 NC
- Shielding



ESD/EMC/EMV

CE Approval

Emissions

EN55022

FCC Subpart 15, Class A

Interface Immunity

- Electrostatic discharge immunity according to EN 50082-1, resistance limit 8kv (air discharge).

- Radiated, radio-frequency electromagnetic field immunity, severity of test 3 V/m.

Temperature Ratings

Operational Temperature
0° C to 50° C

Air Pressure
700 hPa to 1060 hPa

Relative Humidity
5% to 93%

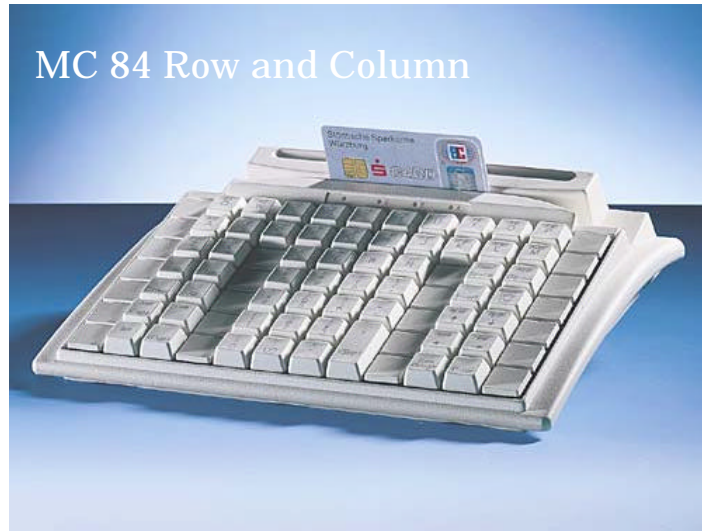
Climatic Class
700 hPa to 1060 hPa

Storage and Transportation
-40°C to 60°C

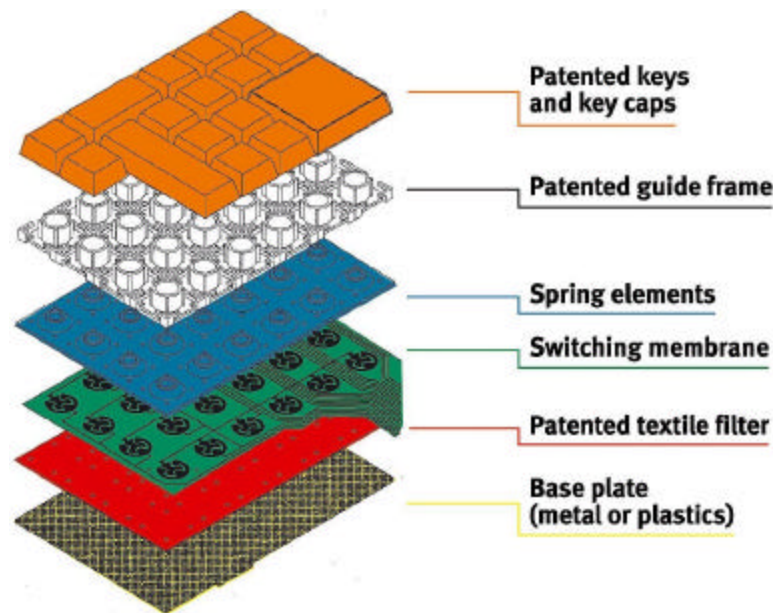
Climatic class
DIN-IEC 68, part 1, appendix A

Materials Surfaces

Housing: *ABS*
Guide Frame: *Polystyrol*
Switching Membrane: *Polyester*
Base Plate: *Steel Zinc plated*
Spring Elements: *Elastomer*
Textile filter: *Trevira*
Keys and Keycaps: *PBT/POM/PC*



Patented long life Keypad Technology

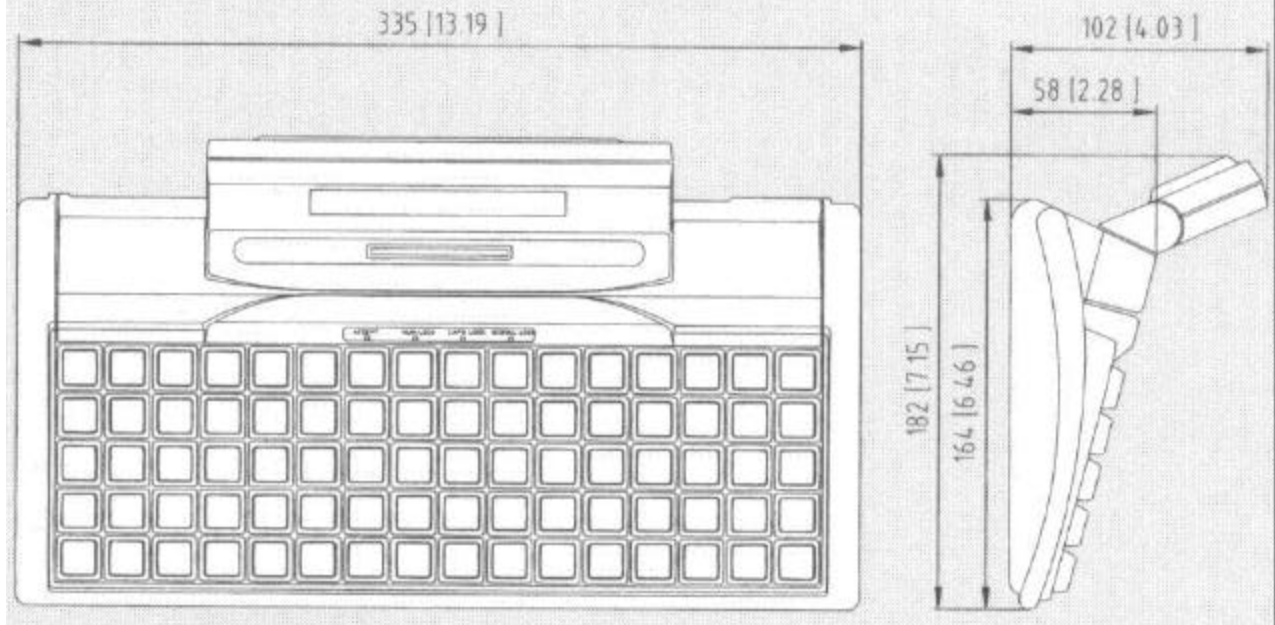


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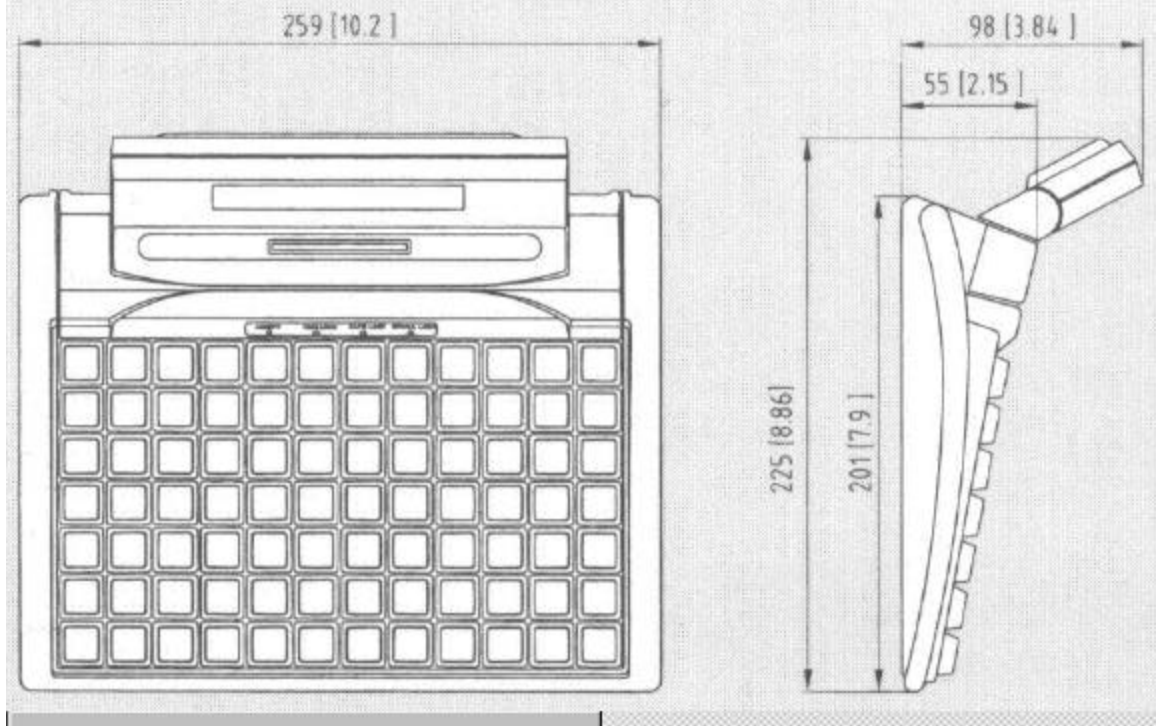
Dimensional Drawings

Dimensions in mm (inches)

MC 80 W/X with LCD (2 lines)



MC 84 W/X with LCD (2 lines)



MC 128 W/X with LCD (2 lines)

