F8 Keyboard

128 key compact programmable keyboard

TECHNICAL OVERVIEW

Description and Application

F8_Keyboard_TO_1_2.docx

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A. GENERAL INFORMATION

TIPROs 128-key F8 Keyboard is a new keyboard with a compact footprint. It has both USB and PS/2 interface.

It is programmable like all other Tipro modules.

Switching between USB and PS/2 interface is done by simply connecting the respective cable. Our ChangeMe software takes care that both USB and PS/2 key events are programmed.

A.1. Highlights

FEATURES

- ♦ programmable
- ♦ mechanical keys (Cherry MX)
- ♦ ergonomic tactile feedback for frequent/intensive typing
- ♦ various keycap sizes and colours
- ♦ customizable key inscriptions (pad printing) and contents/codes
- ♦ robust and durable

CONCEPT

- ♦ open-standard interfaces
- ♦ supported by generic HID keyboard drivers
- ♦ versatile and upgradeable

PROGRAMMABILITY

- ♦ each key can be programmed with up to four (4) different contents (layers)
- ♦ enable/disable function for individual keys and key combinations
- ♦ different access levels protected by passwords (see Reference [2])
- ♦ all settings permanently stored in internal non-volatile memory of the controller

A.2. Technical Characteristics

ELECTRICAL

- ♦ **power supply:** 5V±5% (from primary USB or PS/2 interface)
- ♦ **current consumption**: 35 mA_{TYP} (maximum: 90 mA)

ENVIRONMENTAL

- ♦ **operating ambient temperature range**: 0°C to +40°C
- ♦ **storage ambient temperature range**: -10° C to +50°C
- ♦ **relative humidity range**: 20% to 80% (non-condensing)

MECHANICAL

- ♦ **casing:** plastic ABS
- ♦ **dimensions:** $350 \times 174 \times 48$ mm. (WxDxH)
- ♦ **weight**: 1.2 kg.
- ♦ **protection (sealing) grade**: IP 30 (according to EN 60529)
- ♦ **packaging dimensions**: 380 x 190 x 60 mm.
- ♦ **weight including packaging**: 1.4 kg.

MECHANICAL KEYS

- ♦ **keyswitch**
  - ➢ model: Cherry MX
  - ➢ actuation: linear
  - ➢ key travel: 3.6 mm to 4.0 mm total, (2 ± 0.6) mm pre-travel
  - ➢ actuating force: (60 ± 20) cN
  - ➢ reliability (Mean Cycles To Failure): MCTF = 1 billion (10^9) press/release cycles (50 million is guaranteed minimum)
- ♦ **keycaps**
  - ➢ construction: separate body and cover
  - ➢ keycap covers: printed (transparent available)

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A.3. Ordering Code

Compact Footprint Keyboard

F	8	Q	-	C	_	_	-
1	2	3		4			5

1   Compact Keyboard

2   Keyboard size
      8:   max. 128 keyswitches

3   Matrix Arrangement
    Q :   staggered qwerty layout down (5 rows)
    X :   xy matrix

4   Housing Colour
   C15 :   Standard (black housing)

5   Custom Version (optional)

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B. MODULES

B.1. Keyboard Module

The Keyboard module has 128 keys arranged into eight (8) rows and 16 columns with a staggered Qwerty layout (in the lower five rows). By default the three upper rows of keys are furnished with single keycaps and transparent keycap covers. The lower 5 rows with QWERTY layout have black keycaps with printed legends.

The Keyboard utilizes Cherry MX mechanical keyswitches with a long travel and an ergonomic force feedback suitable for frequent typing. Keycaps are available in different sizes (single, double horizontal, double vertical, quadruple) and colours.

A special key arrangement arranged into eight (8) rows and 16 columns is possible. By default all keys are furnished with single keycaps and transparent keycap covers:

B.2. Controller

The Tipro Controller is an integral part of the keyboard. The controller provides a USB and/or PS/2 interface to the host system (computer).
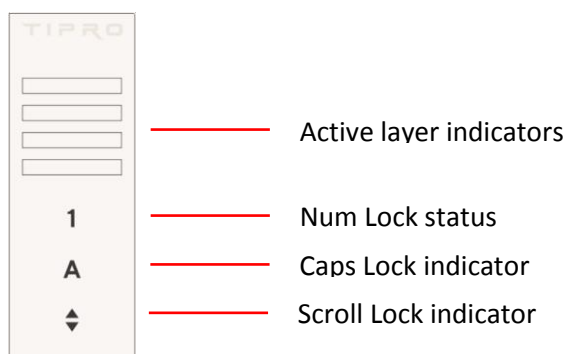
FEATURES

- ♦ supported by generic drivers
- ♦ pre-programmed custom key-content
- ♦ all keys freely programmable
- ♦ "Protect" function (provides several access levels/security) can be implemented
- ♦ programmable with ChangeMe software
- ♦ status LEDs
  - ➢ Caps Lock
  - ➢ Num Lock
  - ➢ Scroll Lock
- ♦ four LEDs for layer indication

B.2.1. Technical Characteristics

CONTROLLER EEPROM:

- ♦ **capacity :** 64kB
- ♦ **endurance :** 1 million write/erase cycles
- ♦ **data retention :** 100 years

B.2.2. Indicators

B.3. Interface Cable

The necessary USB cable is included in the configuration. (PS/2 cable to be ordered separately)

USB CABLE

   ♦ **length**: 2.5 m
   ♦ **controller side connector**: USB B plug (male)
   ♦ **host side connector**: USB A plug (male)

C. ACCESSORIES

C.1. USB Cable

Ordering code: TM-CU1-001

C.2. PS/2 Cable

Ordering Code: TM-CMA

D. REFERENCES

1. "ChangeMe" – User's Manual
2. "Protect Function" – Application Note

E. NOTICES

E.1. Disclaimer

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