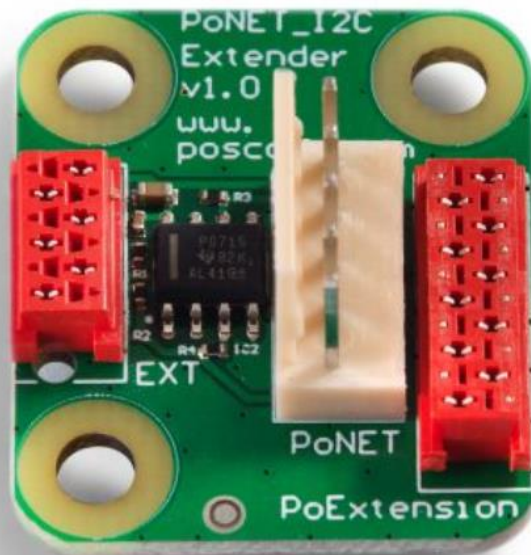




# PoNET I2Cextender

User's manual

v1.0



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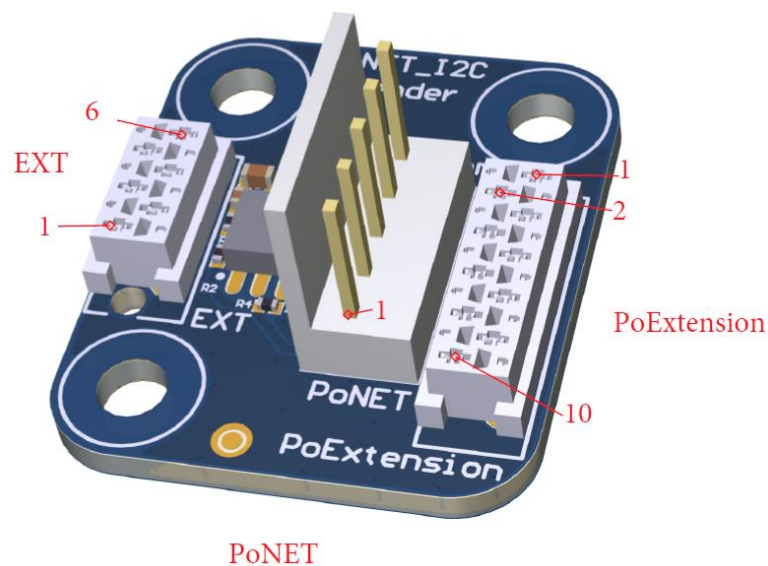
## 1 Introduction

PoNet I2Cextender is the I2C extension device that provides 10 times higher line drive than standard I2C, thus improving data integrity. Up to 25m - 50m long I2C line with CAT3 cable or better twisted pair is possible, compared to a few tenths of a meter without an I2C extension. In addition to 10 times higher line drive, it can also improve signal integrity in a noisy environment. The device was developed for use with [PoKeys CNC controller](#) devices, but can be used with other microcontrollers without restriction.

## 2 Features

- up to 50m I2C line when using CAT3 or better twisted pair cable
- compatible with 100 kHz and 400 kHz bus frequency
- simple 6-pin flat cable connection between extenders
- 5 pin PoNET or 10 pin PoExtension connector for connection to PoKeys, Arduino, Raspberry Pi or any other device
- 4,5V – 12V power supply; less than 25 mA current
- 3V operation possible with reduced performance

## 3 Connectors and pinout



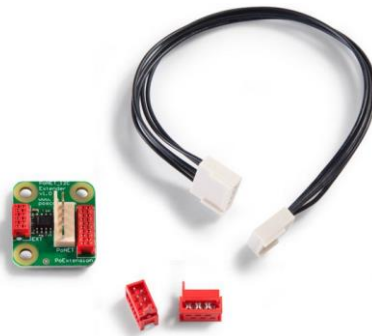
| EXT<br>(long distance side I2C) |     |
|---------------------------------|-----|
| 1                               | VCC |
| 2                               | GND |
| 3                               | SDA |
| 4                               | SCL |
| 5                               | GND |
| 6                               | VCC |

| PoNET |     |
|-------|-----|
| 1     | VCC |
| 2     | GND |
| 3     | SDA |
| 4     | na  |
| 5     | SCL |

| PoExtension |     |
|-------------|-----|
| 1           | VCC |
| 2           | GND |
| 3           | na  |
| 4           | na  |
| 5           | SDA |
| 6           | SCL |
| 7...10      | na  |

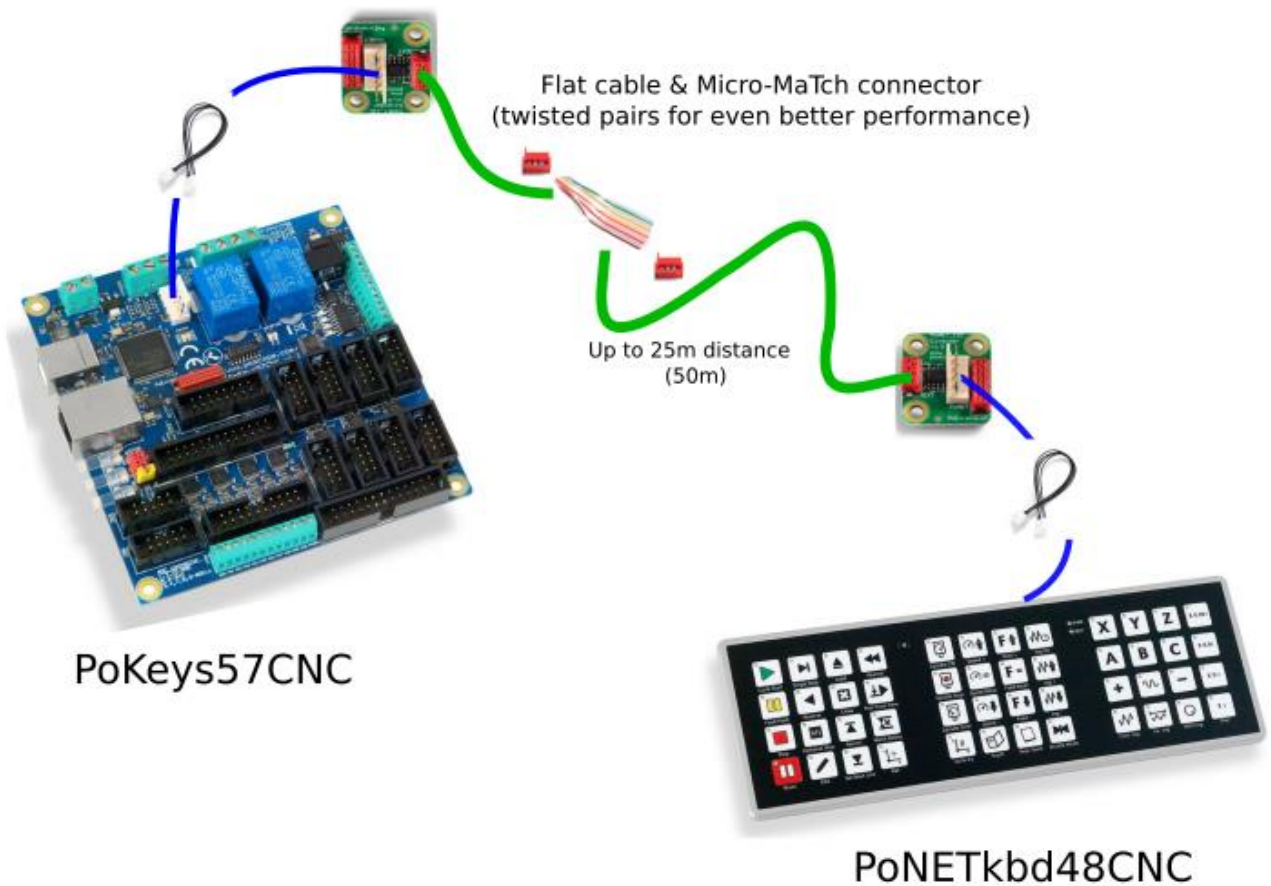


Two EXT connectors (Micro-MaTch) for flat cable and a PoNet cable are included in the package.



## 4 Connection example

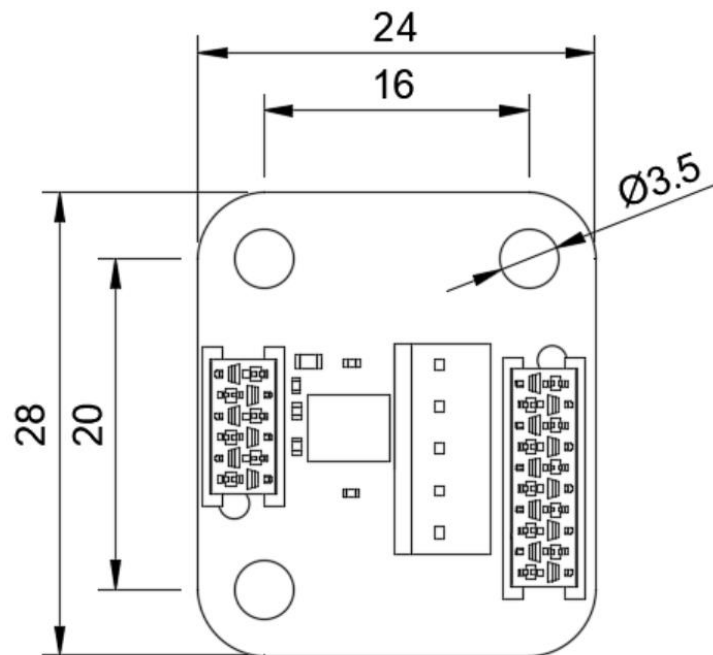
On a picture below is a typical example of usage where master device PoKeys57CNC communicate with I2C peripheral unit PoNETkbd48CNC.



Typical connection scheme

## 5 Technical specifications

- Input voltage 3-12 V<sub>DC</sub>
- I2C bus frequency 100 kHz and 400kHz supported
- Operating range up to 50 m
- Working temperature -20 °C ÷ +80 °C
- Weight 4g
- Mechanical dimensions [mm]



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