

## Expand 15 Click



PID: MIKROE-5679

**Expand 15 Click** is a compact add-on board that contains a multi-channel I/O expander. This board features the [TCAL6416](#), a general-purpose I/O expansion for most microcontroller families from [Texas Instruments](#). The TCAL6416 comes in one P-port configuration and allows easy addition of I/O through a standard I2C serial interface. P port is user-configurable to either a logic input or output by writing to the I/O configuration register bits. Its additional features are programmable output drive strength, pull-up and pull-down resistors, latchable inputs, maskable interrupt, interrupt status register, and programmable open-drain or push-pull outputs. This Click board™ provides a simple solution when additional I/Os are needed for switches, sensors, push-buttons, LEDs, fans, and more.

Expand 15 Click is supported by a [mikroSDK](#) compliant library, which includes functions that simplify software development. This [Click board™](#) comes as a fully tested product, ready to be used on a system equipped with the [mikroBUS™](#) socket.

Mikroe produces entire development toolchains for all major microcontroller architectures.

Committed to excellency, we are dedicated to helping engineers bring the project development up to speed and achieve outstanding results.



ISO 27001: 2013 certification of informational security management system.  
ISO 14001: 2015 certification of environmental management system.  
OHSAS 18001: 2008 certification of occupational health and safety management system.



ISO 9001: 2015 certification of quality management system (QMS).

## Specifications

|                  |                                                                                                                                                                                                                                                                                     |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type             | Port expander                                                                                                                                                                                                                                                                       |
| Applications     | It provides a simple solution when additional I/Os are needed for switches, sensors, push-buttons, LEDs, fans, and more                                                                                                                                                             |
| On-board modules | TCAL6416 - I/O expander from Texas Instruments                                                                                                                                                                                                                                      |
| Key Features     | Allows bidirectional voltage-level translation and GPIO expansion, low power consumption, fast I2C interface, selectable I2C address, reset and interrupt features, polarity inversion register, various programmable features like output drive strength, pull resistors, and more |
| Interface        | I2C                                                                                                                                                                                                                                                                                 |
| Compatibility    | mikroBUS                                                                                                                                                                                                                                                                            |
| Click board size | M (42.9 x 25.4 mm)                                                                                                                                                                                                                                                                  |
| Input Voltage    | 3.3V, External                                                                                                                                                                                                                                                                      |

## Resources

[mikroBUS™](#)
[mikroSDK](#)
[Click board™ Catalog](#)
[Click boards™](#)

## Downloads

[Expand 15 click example on Libstock](#)
[TCAL6416 datasheet](#)
[Expand 15 click 2D and 3D files](#)
[Expand 15 click schematic](#)

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