Uni-Kit Breakout Board - Dot Matrix Display 8x16

PID: UKBB-0002
Document Version: UKBB-0002-10-06-25

Uni-kit Breakout Dot Matrix is a compact add-on board with an 8x16 LED matrix module designed to interface with the Uni-Kit via the MIKROE connector. It is powered by the IS31FL3729 LED matrix driver, offering easy control over 128 individual LEDs through I²C communication.

Uni-Kit Breakout Board Sensor is supported by the uni-SDK library, which includes functions that simplify software development.

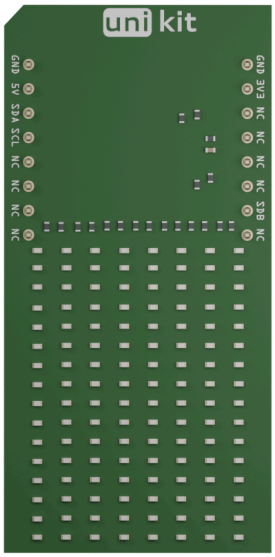

Figure: Uni-Kit Breakout Dot Matrix Board

HOW DOES IT WORK?

The Dot Matrix Breakout Board works by using the IS31FL3729 driver to control 128 LEDs arranged in an 8x16 grid. The Uni-Kit communicates with the driver over I²C to turn LEDs on or off based on data sent from the firmware. The driver rapidly scans rows and columns using multiplexing, creating smooth visual patterns or animations using minimal microcontroller pins.

This Breakout Board can operate with 3.3 V logic voltage. However, the Breakout Board comes equipped with a library containing easy-to-use functions and an example code that can be used, as a reference, for further development.

SPECIFICATIONS

Type	Dot Matrix Display
Applications	The Dot Matrix Breakout Board is ideal for displaying text, symbols, animations, and visual feedback in embedded projects. It can be used for scrolling messages, status indicators, basic games, and real-time sensor data visualization, making it a versatile tool for both learning and prototyping.
On-board Components	IS31FL3729
Interface	I2C
Compatibility	mikroBUS™
Board size	M (42.9 x 25.4 mm)
Input Voltage	3.3V

PINOUT DIAGRAM

This table shows how the pinout on the Uni-Kit Breakout Board Sensor corresponds to the pinout on the mikroBUS™ socket (the latter shown in the two middle columns).

Notes	Pin	mikroBUS				Pin	Notes
	NC	1	AN	PWM	16	NC	
Reset	**RST**	2	RST	INT	15	INT	
	NC	3	CS	RX	14	NC	
	NC	4	SCK	TX	13	NC	
	NC	5	MISO	SCL	12	**SCL**	I2C Clock
	NC	6	MOSI	SDA	11	**SDA**	I2C Data
Power Supply	**3.3V**	7	3.3V	5V	10	**5V**	Power Supply
Ground	**GND**	8	GND	GND	9	**GND**	Ground

ELECTRICAL SPECIFICATIONS

Description	Min	Typ	Max	Unit
Supply Voltage	-	3.3	-	V

SOFTWARE SUPPORT

A library for the Uni-Kit Breakout Board is available as a demo application (example). The demo can run on all the Uni-Kit development boards.