

Front Panel

Tiger City IMX Industrial Computer with Linux OS

View of the front panel



Components of the front panel

- DIP switches
- Signal LEDs
- OLED display
- Joystick
- Reset button

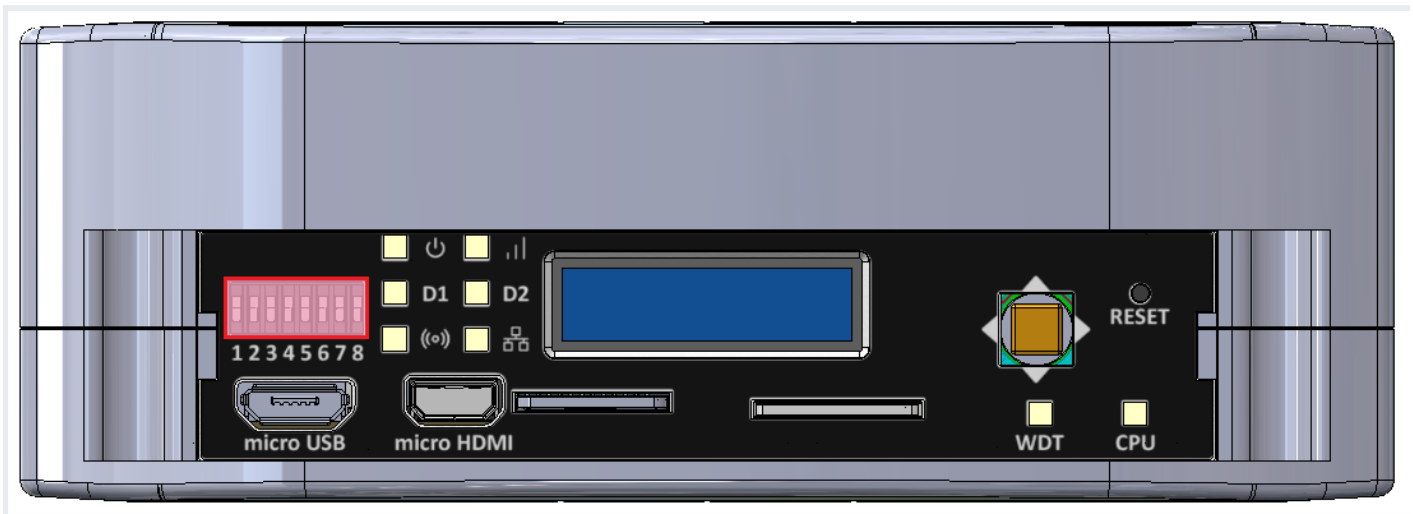
DIP switches

The device has DIP switches on the front panel which enable the control of various key functions such as:

- booting mode choice
- microUSB signal choice
- choosing Linux console or RS232 signal

- user-written code

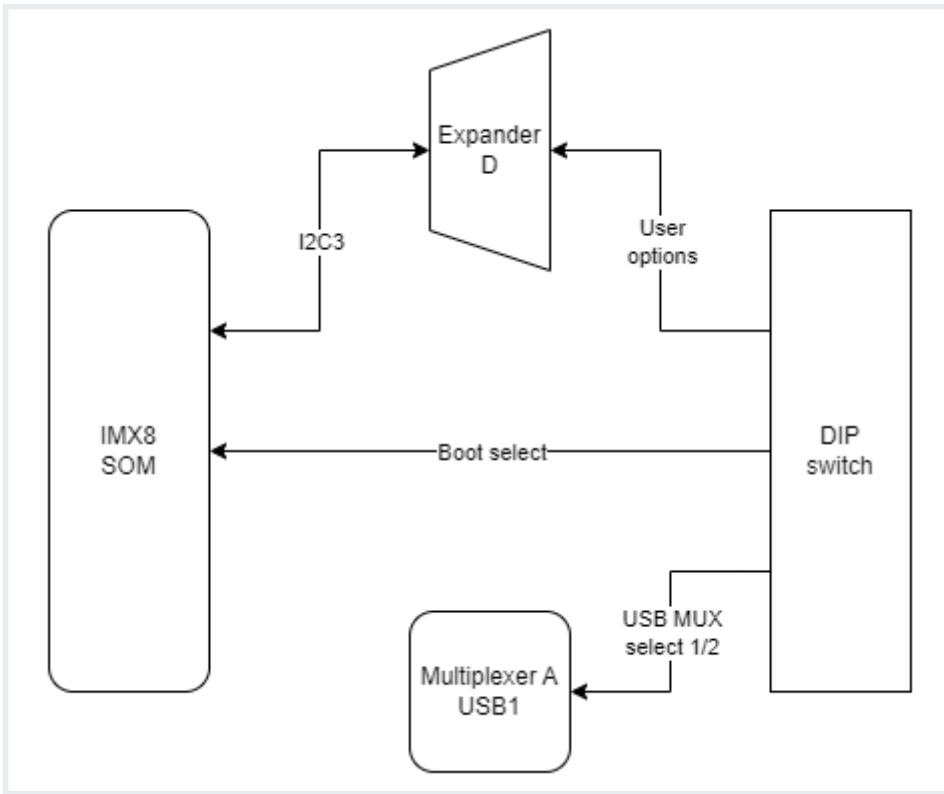
DIP switches placement on the front panel



Switch options

Switch No.	Positions	Description
1	OFF - eMMC boot ON - SD card boot	Boot select - switching between booting device
2	OFF - USB1 OTG ON - UART4 (Linux console)	USB select - microUSB signal choice
3	OFF - UART1 (SOM user) ON - UART4 (Linux console)	RS232 - SOM UART RS232 select
4	OFF - UART2 RS232 user ON - ESP32 console	RS232 - SOM UART RS232/ESP32 select
5	Unassigned	Currently not used
6-8	OFF/ON	User options

Connections diagram



Expander D

User-defined DIP switch options are connected to the expander D which is connected to the CPU via the I2C3 interface.

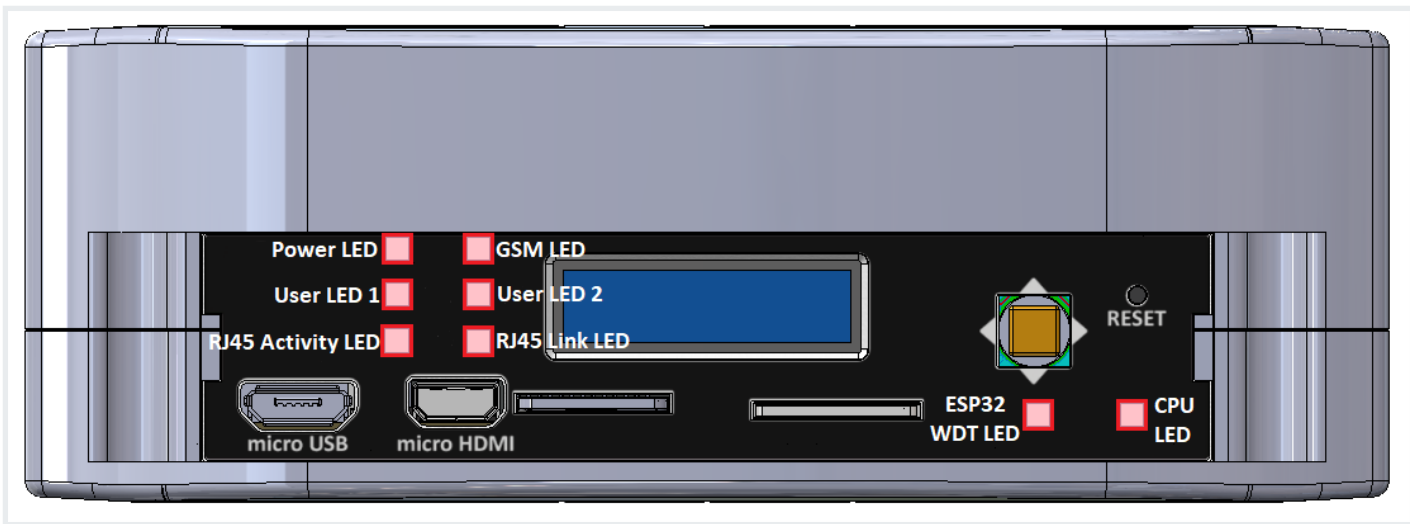
USB1

The USB MUX select 1 and the USB MUX select 2 signals are connected to the multiplexer A associated with USB1.

Signal LEDs

The device is equipped with 8 LEDs. 2 of these LEDs are placed on the mainboard, while the other 6 are on the front panel of the HMI board.

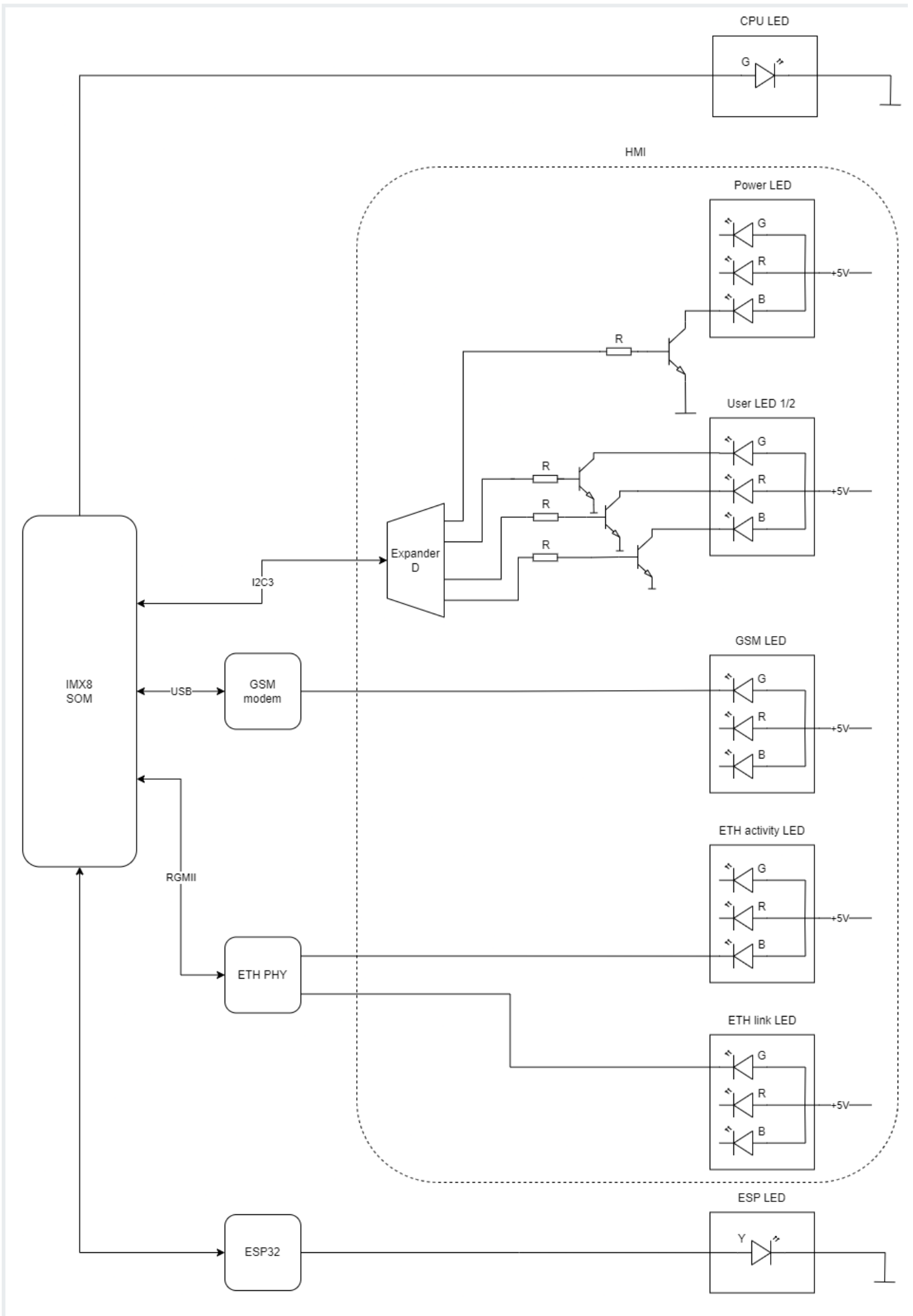
LEDs location



LEDs connections

Description	User-space name	Label
Power LED	gpiochip6 9	"LED_5V"
CPU LED	gpiochip0 3	"LED_MAINBOARD"
User LED 1 G	gpiochip6 10	"LED3_GREEN"
User LED 1 R	gpiochip6 5	"LED3_RED"
User LED 1 B	gpiochip6 12	"LED3_BLUE"
User LED 2 G	gpiochip6 13	"LED4_GREEN"
User LED 2 R	gpiochip6 11	"LED4_RED"
User LED 2 B	gpiochip6 15	"LED4_BLUE"

LED connection diagram



ESP32 microcontroller

ESP LED is connected directly to the ESP32 microcontroller.

GSM

GSM LED is connected directly to the GSM modem.

ETHERNET

ETH activity LED and ETH link LED are connected directly to the ETHERNET physical layer.

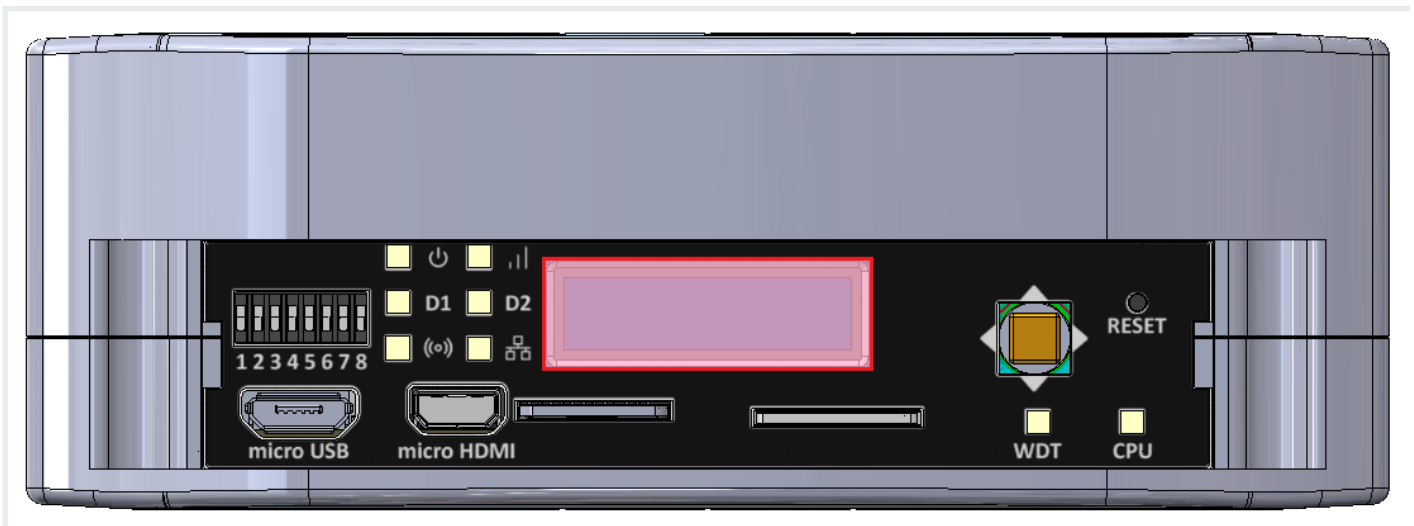
Expander D

Power LED, User LED 1 and User LED2 are connected to the expander D which is connected to the CPU via the I2C3 interface.

OLED display

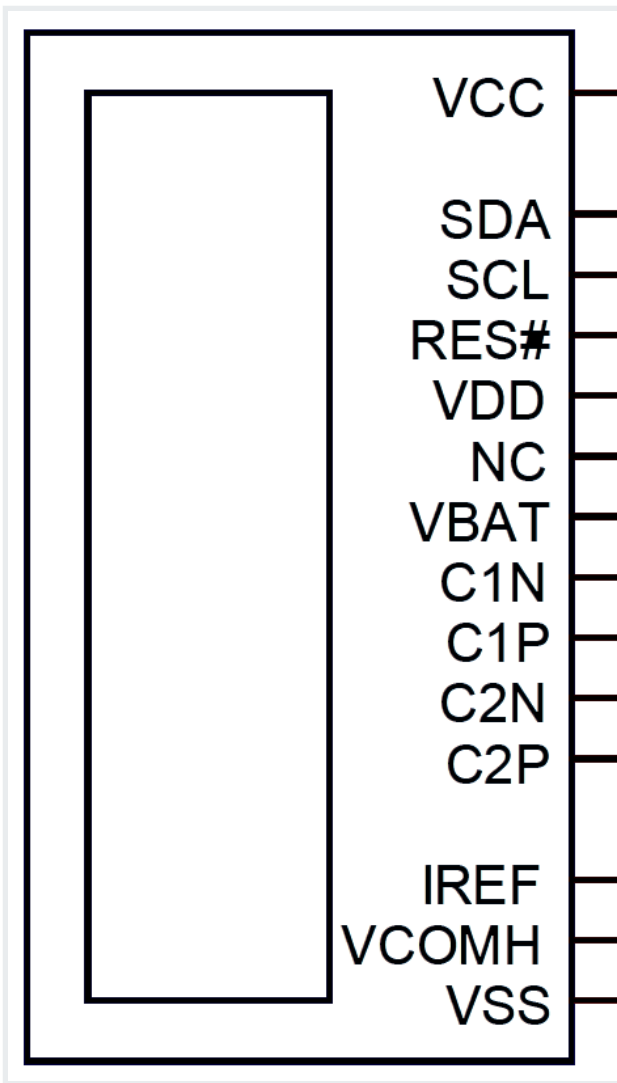
The device is equipped with a 0.87" black and white display with a resolution of 128x32 px.

OLED display placement



OLED device

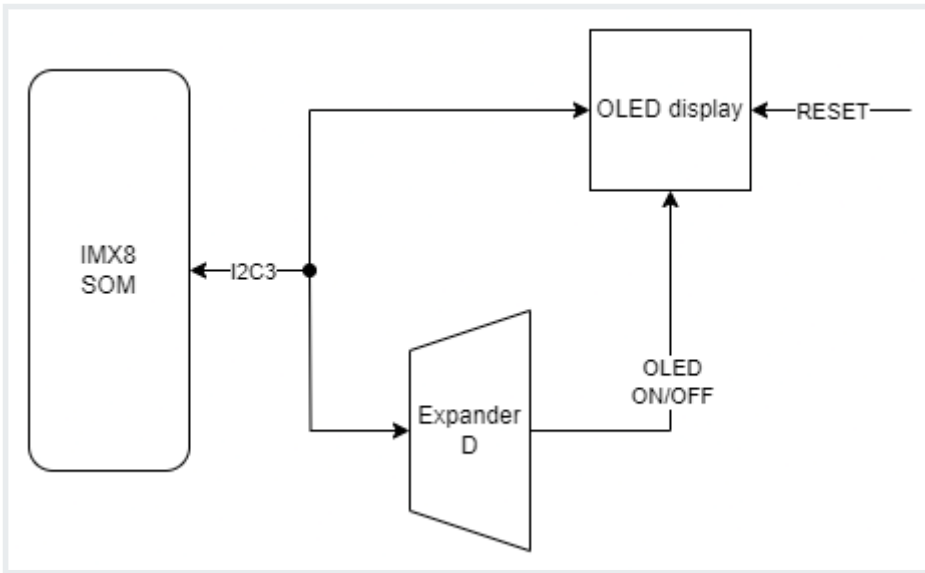
Part number: **SCE087002-V01**



OLED connections table

OLED pin	Description	User-space name
RES#	RESET	X
SCL	I2C3 clock	X
SDA	I2C3 data	X
VCC	OLED ON/OFF	gpiochip6 14, "OLED_EN"

OLED connections diagram



Expander D

The OLED display is connected to Expander D which is connected to the CPU via the I2C3 interface.

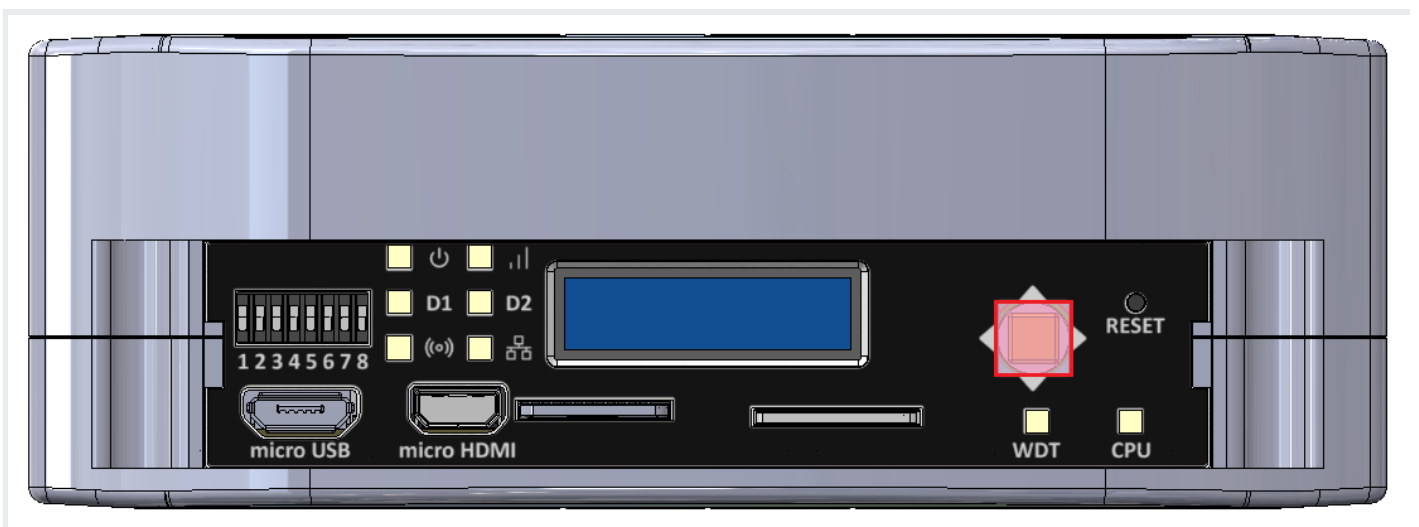
I2C3

The OLED display is directly connected to the CPU via the I2C3 interface.

Joystick

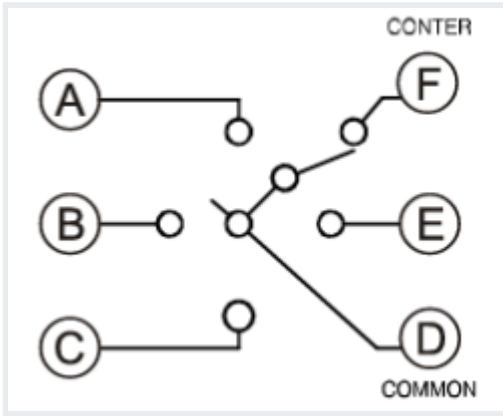
The device is equipped with a joystick for controlling its functions.

Placement



Device

Part number: **INT-1500D**



Connections table

Joystick signal	Expander D pin	User-space name	Label
Right	20	gpiochip6 3	"JOY_RIGHT"
Up	18	gpiochip6 1	"JOY_UP"
Left	17	gpiochip6 0	"JOY_LEFT"
Down	19	gpiochip6 2	"JOY_DOWN"
Push	21	gpiochip6 4	"JOY_PUSH"

Connection diagram



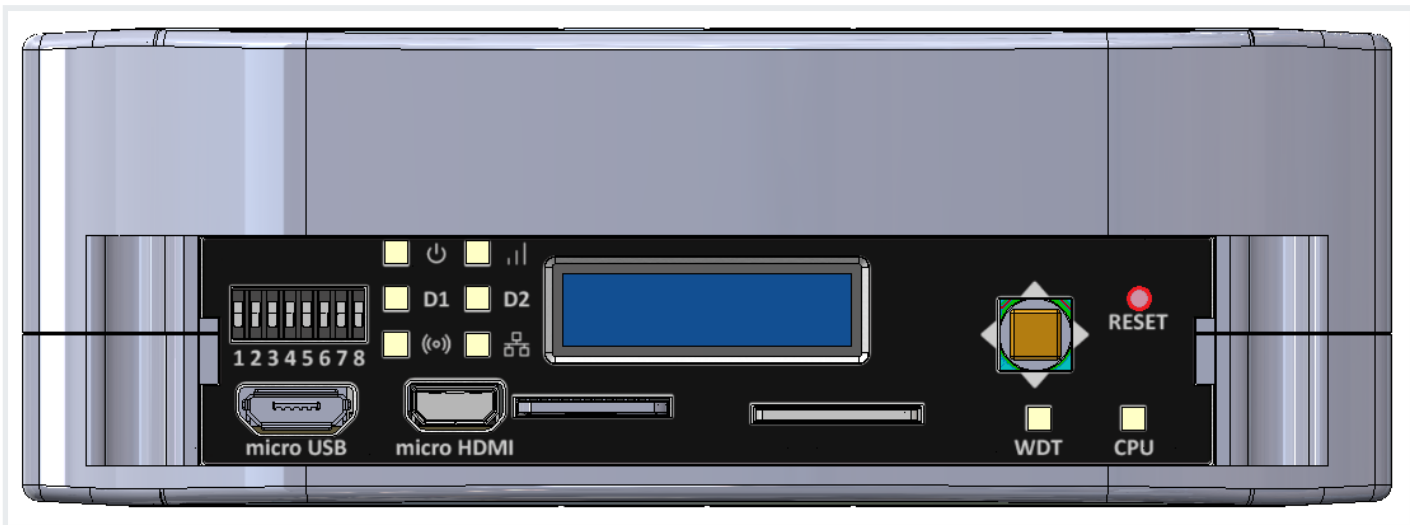
Expander D

Joystick is connected to the Expander D which is connected to the CPU via the I2C3 interface.

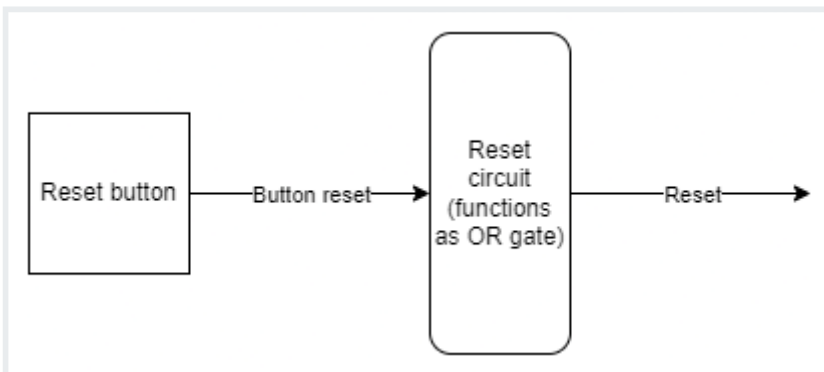
Reset button

The device has a reset button on the front panel.

Reset button location



Connections diagram



Watchdog + reset

The reset button is connected directly to the reset circuit.

Revision #35

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Updated 4 March 2026 09:20:38 by Michał Grabski