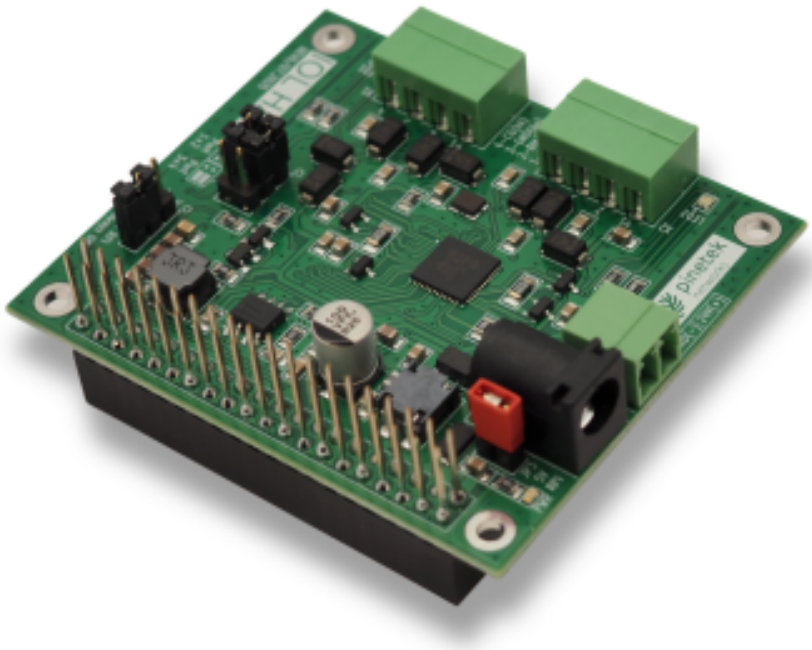
2.3 40-pin GPIO to Raspberry Pi and jumper settings

Application Manual

www.pinetek-networks.com



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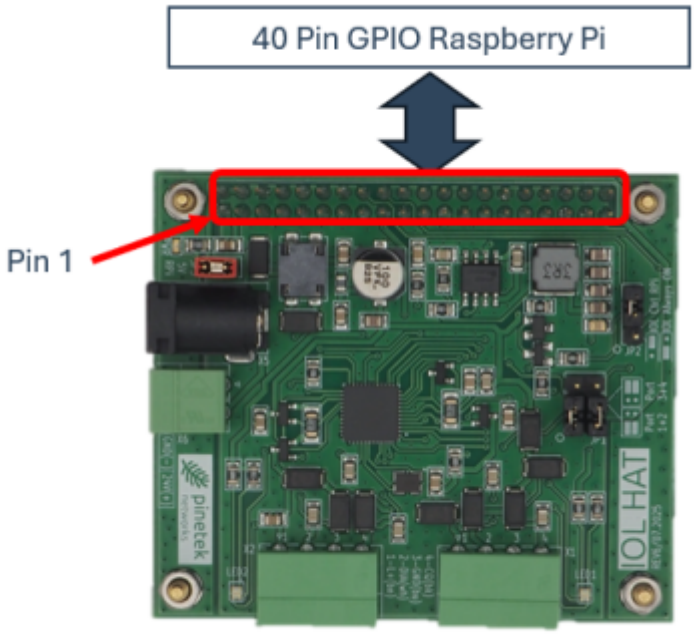
This connector provides the connection to the Raspberry Pi over the standard 40-pin GPIO connector:



This connector is implemented as stack-through, i.e. up to two IOL HAT Pros can be connected on top of each other. Other additional expansion boards can be connected via the stack-through connector if the pins are not used by the IOL HAT Pro.

Ensure the correct orientation of the GPIO connector. Misalignment or rotation can cause damage on the Raspberry Pi host and the IOL HAT Pro. Pin 1 is marked and needs to match with the Raspberry Pi.

Raspberry Pi pin usage

The following pins are always in use when one or more IOL HAT Pro modules are installed:

Usage	Raspberry Pi Pin(s)
SPI: MISO (Master-In-Slave-Out)	21 (SPI_MISO)
SPI: MOSI (Master-Out-Slave-In)	19 (SPI_MOSI)
SPI: CLK (Clock)	23 (SPI_CLK)
IOL Control (GPIO out)	16 (GPIO 23); optional based on JP2
5V to Raspberry Pi	2,4; optional based on JP3

Usage	Raspberry Pi Pin(s)
3V3	1,17
GND	6,9,14,20,25,30,34,39

The following pins are used depending on the port selection:

Usage	IOL Port 1+2 Raspberry Pi Pin #	IOL Port 3+4 Raspberry Pi Pin #
SPI: CE (Chip Enable)	24 (SPI_CE0)	26 (SPI_CE1)
Interrupt	18 (GPIO24)	22 (GPIO25)

SPI mode

For the SPI interface, the Raspberry Pi acts as “master”, the IOL HAT Pro as “slave”. The SPI mode is Mode 0 (CPOL=0; CPHA=0). All pins in the GPIO connector are connected through without modification.