DiP-Pi PICO PIoT/WiFi Master/Power Master
Technical Specifications

Mechanical		PIoT	WiFi Master	Power Master
DiP-Pi PCB dimensions	21mm x 51mm	YES	YES	YES
Raspberry Pi PICO Footprint compliance	Yes, size and pinout	YES	YES	YES
Raspberry Pi PICO headers	Male, female, or female-male (pass thru)	YES	YES	YES
External Cable Powering				
EPR Power Input	6-18V DC	YES	NO	YES
Current/Voltage Supply	1.5A@4.8V	YES	NO	YES
EPR Power Input Protections	Reverse Polarity, PPTC FUSE, ESD	YES	NO	YES
Recommended EPR Power Input Plug	Plug; DC supply; female; 3.4/1.4mm	YES	NO	YES
EPR Power Input Socket	Socket, DC Supply, male, Contact size 3.4/1.3mm or 3.5/1.3mm	YES	NO	YES
EPR Level monitoring	Yes, via ADC1 (GP27), pass thru 0R 0402 resistor, easy to be removed if this specific GP is needed for other application	YES	NO	YES
External Powering and USB Powering ON/OFF	Supported by ON/OFF Slide Switch	YES	YES	YES
Raspberry Pi PICO USB Powering	Compliant	YES	YES	YES
Raspberry Pi PICO Power Entry Point	VSYS Pin	YES	NO	YES
Battery Powering				
Supported Battery Types	PCM Protected (2A Max allowed Current – 2A) LiPo and Li-Ion Batteries	YES	NO	YES
Battery Socket	Male JST 2.5mm	YES	NO	YES
Battery Charger Current	240 mA	YES	NO	YES
Battery Fuel Gauge	Software - provided by Manufacturer	YES	NO	YES
(optional) Charger ON/OFF. Normally charger is working automatically, and not need any user intervention	Yes, via GP21, pass thru 0R 0402 resistor, easy to be removed if this specific GP is needed for other application	YES	NO	YES
BAT Level monitoring	Yes, via ADC1 (GP26), pass thru 0R 0402 resistor, easy to	YES	NO	YES

	be removed if this specific GP is needed for other application			
ON/OFF Functionality	Supported by ON/OFF Slide Switch on All Power Sources	YES	NO	YES
UPS Functionality	Yes, automatic if Cable power missing (EPR, USB) both directions (from missing cable to battery powering and vice versa)	YES	NO	YES
Indicators - Switches				
Informative LEDs	VB (VUSB), VS (VSYS), VE (VEPR), CH(VCHR), V3(V3.3)	YES	YES	YES
Switches	PICO Reset, ON/OFF on all Powering Sources (EPR, USB and BAT), WiFi LD-NO (**No**rmal usage, **Lo**ading ESP new firmware – usually not needed)	YES	YES	YES
WiFi				
WiFi Module	Based on clone ESP8266 Clone	YES	YES	NO
Connectivity with Raspberry Pi PICO	UART0RX(GP13), UART0TX(GP12), WiFi Reset (GP15), WiFi ENABLE(GP11) used when ultra-low power is needed. Examples provided contains simple WEB server set up. Interaction with WiFi is done via AT commands.	YES	YES	NO
Micro SD Card Socket				
Interface Type	Standard micro–SD Cards Interface recommended by Raspberry Pi (single bit interface - SPI). Raspberry Pi PICO can store/read data or run software from the SD card.	YES	YES	NO
Connectivity with Raspberry Pi PICO	SPI0 SD_MISO(GP16), SD_CS(GP17), SD_CLK(GP18), SD_MOSI(GP19), SD_DET(GP20), – if SD card is not used the GPXX can be used in other applications	YES	YES	NO
Embedded ESD protected 1-wire interface				
Type 1-Wire Interface	Direct independent Interface (separated 3V3 and GND	YES	YES	YES

	independent) with ESD protection and 4K7 resistor			
Connectivity with Raspberry Pi PICO	1-Wire (GP10) routed to independent 3 pins interface (3V3, 1-Wire, GND)	**YES**	**YES**	**YES**
1-Wire powering	Independent LDO 3V3@600mA used for WiFi, 1-Wire and DHT11/22, independent from PIco 3V3 Powering, Current Limit and Short Circuit Protection, Thermal Shutdown Protection	**YES**	**YES**	**YES**
1-Wire Connectivity	3 pins (holes) independent connectivity	**YES**	**YES**	**YES**
DHT22 and DHT11 interface				
Humidity/Temperature Sensor Interface	Direct independent Interface (separated 3V3 and GND independent) with 10K resistor	**YES**	**YES**	**YES**
DHT11	Supported	**YES**	**YES**	**YES**
DHT22	Supported	**YES**	**YES**	**YES**
Additional User Application 3V3 LDO				
Type of Powering	independent LDO 3V3@600mA used for WiFi, 1-Wire and DHT11/22, separated from PIco 3V3 Powering, Current Limit and Short Circuit Protection, Thermal Shutdown Protection. Can be used for any user application. 3V3 is sourced from VSYS.	**YES**	**YES**	**YES**
Weather Station Capabilities				
Humidity/Temperature Sensor Interface	DHT22, or DHT11 (only one can be used at the time)	**YES**	**YES**	**YES**
Used/Free Raspberry Pi PICO Pins				
USED PINS	**FREE PINS**	**YES**	**YES**	**YES**
Left Side GP10 (if used for the 1-wire) – all versions GP11 (if WiFi is assembled) – WiFi and PIoT GP12 (if WiFi is assembled) – WiFi and PIoT GP13 (if WiFi is assembled) – WiFi and PIoT	Left Side GP00 GP01 GP02 GP03 GP04 GP05 GP06 GP07 GP08	**YES**	**YES**	**YES**

GP14 used for User LEDs (optional) GP15 (if WiFi is assembled) – WiFi and PIoT <u>Right Side</u> GP27 (if used for EPR monitoring) GP26 (if used for BAT monitoring) GP22 (if used for DHT11/22 monitoring) GP21 (if used for Charger Control) GP20 (if SD Card is used) – PIoT only GP19 (if SD Card is used) – PIoT only GP18 (if SD Card is used) – PIoT only GP17 (if SD Card is used) – PIoT only GP16 (if SD Card is used) – PIoT only	GP09 GP10 (if not used for the 1-wire) <u>Right Side</u> GP28 GP27 (if not used for EPR monitoring) GP26 (if not used for BAT monitoring) GP22 (if not used for DHT11/22 monitoring) GP21 (if not used for Charger Control) GP20 (if SD Card is not used) GP19 (if SD Card is not used) GP18 (if SD Card is not used) GP17 (if SD Card is not used) GP16 (if SD Card is not used)			