



Updated ESP32 Pin Mapping

Panel Pin	ESP32 Pin	Function	Purpose
LCD_RST	GPIO16	Reset	Resets the TFT display
LCD_CS (YP)	GPIO5	Chip Select / Y+ (ADC)	Activates TFT module / Y-axis touch input
LCD_RS (XM)	GPIO4	Data/Command / X-	Selects between command/data / X-axis touch control
LCD_WR	GPIO17	Write Strobe	Signals a write operation to the TFT
LCD_RD	GPIO21	Read Strobe	Signals a read operation from the TFT
5V	5V	Power	Powers the display
GND	GND	Ground	Common ground connection
3V3	3.3V	Power	Alternative power supply if required
LCD_D0 (XP)	GPIO12	Parallel Data Bus / X+	Pixel data transfer / X-axis touch input
LCD_D1 (YM)	GPIO13	Parallel Data Bus / Y-	Pixel data transfer / Y-axis touch control
LCD_D2	GPIO26	Parallel Data Bus	Pixel data transfer
LCD_D3	GPIO25	Parallel Data Bus	Pixel data transfer
LCD_D4	GPIO27	Parallel Data Bus	Pixel data transfer
LCD_D5	GPIO14	Parallel Data Bus	Pixel data transfer
LCD_D6	GPIO33	Parallel Data Bus	Pixel data transfer
LCD_D7	GPIO32	Parallel Data Bus	Pixel data transfer
SD_SS	GPIO2	SD Card Chip Select	Activates SD card module
SD_DI (MOSI)	GPIO23	SPI MOSI	Sends data to SD card
SD_DO (MISO)	GPIO19	SPI MISO	Receives data from SD card
SD_SCK	GPIO18	SPI Clock	Synchronizes SD card data transfer
Voltage Sensor	GPIO34	Analog Input (ADC1)	Reads voltage measurements
Current Sensor	GPIO35	Analog Input (ADC1)	Reads current measurements
Throttle Control	GPIO39	Analog Input (ADC1)	Reads throttle position
Throttle Cut	GPIO0	Digital Input (Unique)	Emergency stop signal
ESC Output (PWM)	GPIO3	PWM Output (Unique)	Controls motor speed via ESC
HX711 - DT	GPIO22	Weight Sensor Data	Weight measurement input
HX711 - SCK	GPIO1	Weight Sensor Clock	Weight sensor clock