

# IoD-09 Series

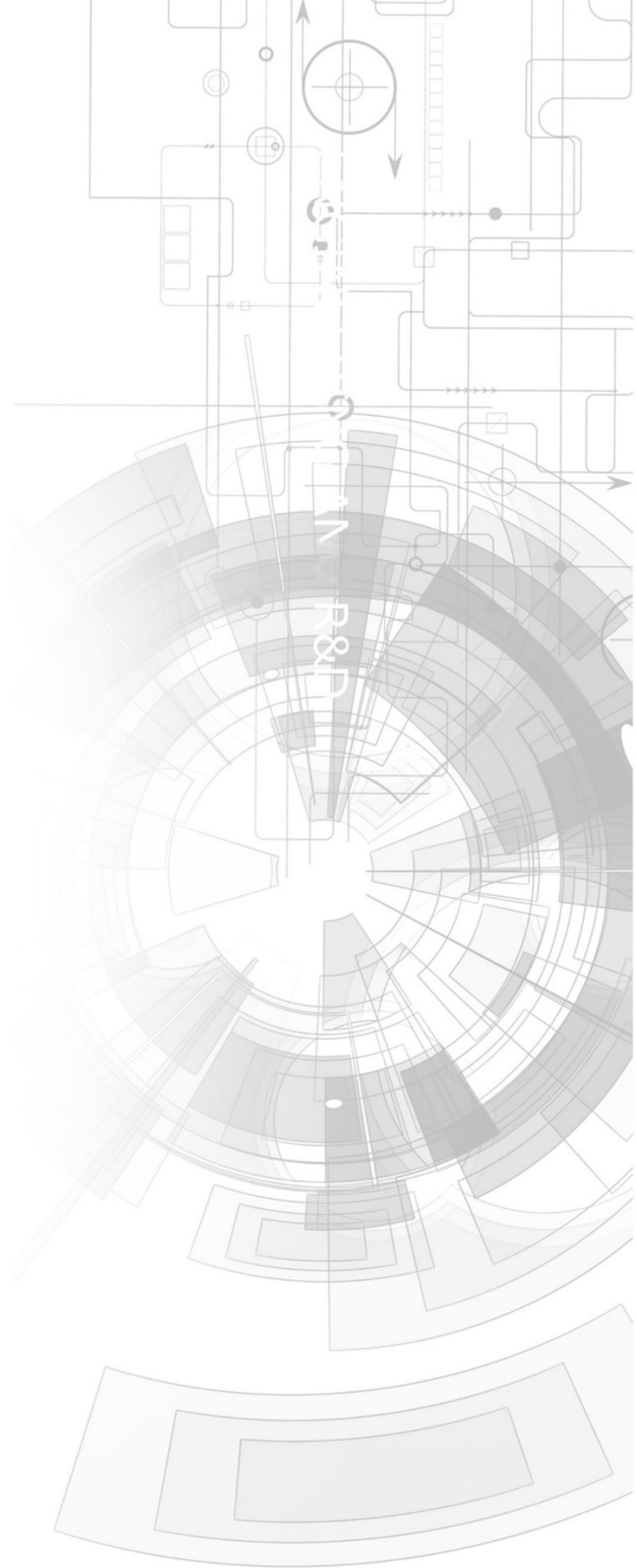
IoD-09TH (0.9" Through Hole Version)  
IoD-09SM (0.9" Surface Mount Version)

## Datasheet

Revision 1.3

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## 1. Description

The IoD-09 (Internet of Displays) series is a range of miniature display modules Designed and Manufactured by 4D Systems.

The IoD-09 modules feature a full-colour 0.9" TFT LCD. They are powered by the WiFi-enabled ESP8266, which offers an array of functionality and options for any Designer / Integrator / User.

The IoD-09 modules can be easily programmed using 4D Systems Workshop4 or the Arduino IDE installed with the ESP8266 core.

The feature-rich 4D Systems GFX4dIoD09 library enables speedy development of applications by providing extensive primitive graphics functions, enhanced graphics via Workshop4, SD card access, and much more, all integrated into a single library.

The onboard SD card socket enables the use of FAT16 or FAT32 formatted cards for extensive storage capabilities.

The IoD-09 modules feature 12 pads, 6 on each end, for easy and simple connection to an application or mother board, or for connecting to accessory boards for a range of functionality advancements. The IoD-09TH features Through Hole (TH) pads with male pin headers mounted, and the IoD-09SM features Surface Mount (SM) pads.

This range of modules has been designed to minimise the impact of display-related circuitry and provide a platform suitable for integration into a product.

The IoD-09 modules can act as master or slave devices, they can be effortlessly connected to the internet, can display a raft of information and graphics, along with the capability to communicate to SPI, I2C, and/or 1-wire devices, as well as having general GPIO for digital control/input.

More information on the Espressif ESP8266 SoC can be found on the [Espressif website](#) and the [ESP8266EX SoC datasheet](#).

### Note

The IoD-09TH module is recommended for all applications, whereas the IoD-09SM module is designed for integrators, due to the nature of its Surface Mount pads. The IoD-09TH is easily programmed with the 4D-UPA and should be the module of choice for most applications.

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