



DLP-VLOG

LEAD-FREE

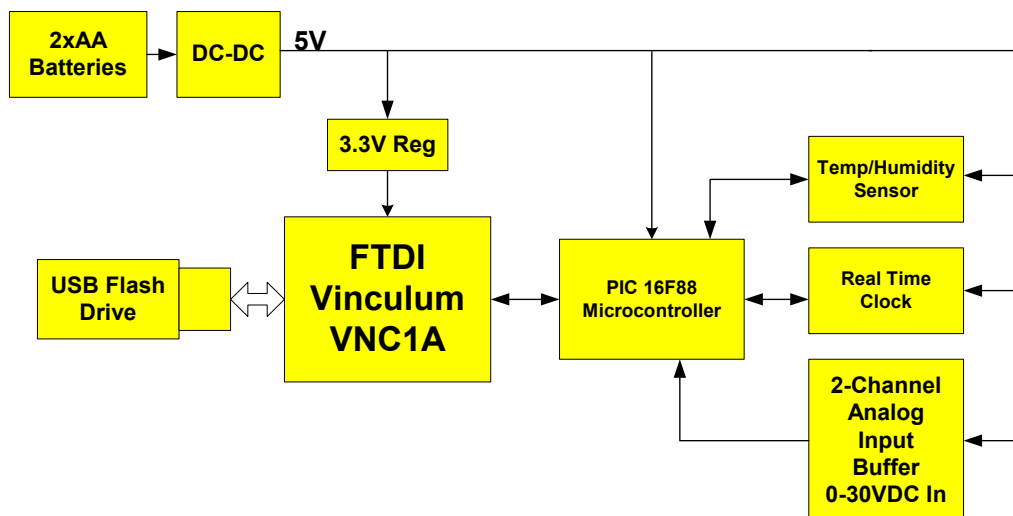
VINCULUM-BASED TEMPERATURE / HUMIDITY / VOLTAGE DATA LOGGER

FEATURES:

- Virtually Unlimited Data Storage Utilizing FTDI's New Vinculum™ USB Host IC
- Data Logged to USB Flash Drive
- Low-Power Modes for Long Battery Life
- System Power via Two AA Batteries
- Lead-Free; RoHS Compliant

DEVELOPMENT KIT INCLUDES:

- DLP-VLOG Module
- C Source Code for the Microcontroller Firmware
- Windows Support Software for Real Time Clock Setup
- Windows Data Conversion Software
- C Compiler and Device Programmer/Debugger
- 32MB USB Flash Drive Containing all Documentation/Software/Source Code



1.0 INTRODUCTION

The DLP-VLOG is intended as both a demonstration platform for the new Vinculum IC as well as a learning tool. The Development Kit is designed to log temperature, humidity and voltage data to a USB Flash drive. Using the Vinculum IC from FTDI, this system demonstrates how one can provide virtually unlimited data storage for a small microcontroller.

This system can be beneficial to electronics enthusiasts with virtually any level of technical expertise. Based on the Vinculum Host Controller IC and the Microchip PIC16F88 Microcontroller, the DLP-VLOG can function as a digital design trainer, a microprocessor development system, or as a rapid path to learning how to implement a USB Host Controller for interfacing a USB Flash drive to a small microcontroller.

Programming headers on the board allow for firmware updates to both the microcontroller and the Vinculum IC so that the board can be updated with additional features developed by the user as well as firmware updates for the Vinculum.

A highly optimized C compiler from Custom Computer Services is provided with the kit that supports the microcontroller firmware. Changes made to the firmware can be debugged and reprogrammed into the microcontroller using the CCS ICD Programmer/Debugger module, which is also included with the kit.

The sensor used in this design is the Senserion SHT11. While this sensor will acquire temperature data in the range of -40 to 123.8°C (-40 to 255°F), it is recommended that you restrict exposure of the module to the commercial temperature range of 0 - 70°C . The humidity range for the sensor is 0 - 100% (non-condensing).

Refer to the datasheet for the SHT11 for detailed specifications.

2.0 USB FLASH DRIVE CONTENTS

A 32MB USB Flash drive is included with the kit for both storage of logged data and storage of all documentation and software. The following items are written to the drive:

- An expanded version of this datasheet/manual
- Microcontroller firmware source code
- A PDF version of the electrical schematic
- A Windows utility for creating the Real Time Clock setup file
- A Windows utility for converting DLP-VLOG output data to floating point values
- The Vinculum datasheet