KATHIR COLLEGE OF ENGINEERING
(Affiliated to Anna University and Approved by AICTE, New Delhi)
Accredited by NAAC and ISO Certified Institution
"Wisdom Tree", Neelambur, Coimbatore
www.kathir.ac.in

Kathr Center for Advanced Research and Development Studies (KCARDS)
&
Entrepreneurship Development and Innovation Institute, Chennai

INTEC – 2019 PARTICIPATION

Kathir College of Engineering participated in INTEC – 2019 held at CODISSIA during 6-10 June, 2019 under the banner of Kathir Center for Advanced Research and Development Studies (KCARDS) in association with Entrepreneurship Development & Innovative Institute, Chennai. KCE is one among five colleges selected by EDII, Chennai to display the innovative product development in the stall allocated in the INTEC -2019 (F113 & F114). Few of the snap shots taken in the venue are depicted below.

Snapshot 1: EDII Stall in INTEC 2019

Snapshot 2: With Dr.C.Alagirisamy, Deputy Director, EDII, Chennai with and with his team

Snapshot 4: Customer Interaction

Snapshot 4: With Dr.Suresh, Mech.-HOD of Kathir College of Engg.

Product Development Initiative Description

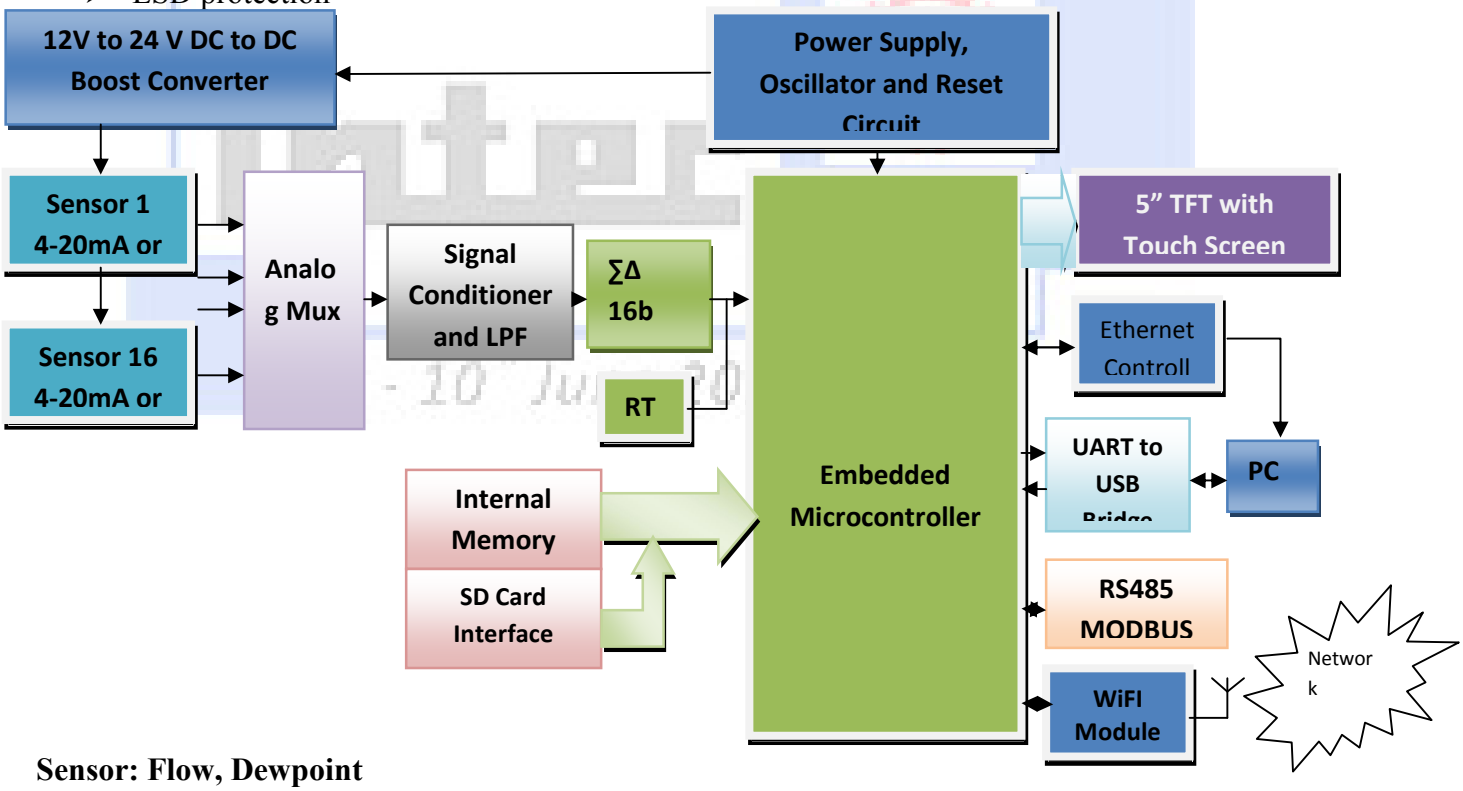
Sixteen Channel Measurement & Data Acquisition system for Industrial 4-20mA Sensor Network with IoT and 5" Graphic touch TFT Display

Description:

A 16 channel data acquisition system with IoT and basic communication facility for 4-20mA Current sensor networks is designed and Developed based on ATMEL microcontroller. The product is now developed for energy auditing in air compressor units. The system will accept current sensors such as Pressure, Flow, Current and Dewpoint. The trend data is stored permanently. User can view the data in Text or graphical mode. The system is designed in such a way to suit for any data acquition and logging system which accepts its input as Voltage or Current. ModBus-RTU via RS485, Ethernet and USB communication interface is facilitated to connect to the external world. 5" TFT with touch screen is provided for controllability and obserbility. The block diagram of the application is given below.

Features and Specifications:

- Embedded Microcontroller based system design.
- 5” TFT 800x480 with Text and Graph Mode.
- 16 it ADC resolution with ADC offset and error calibration.
- Over Current/voltage protection for each channel.
- 16 Analog channels which accepts 4-20mA or Voltage (0-5V).
- Each channel can be customized to suit any Measurement applications.
- 16 GB of Internal Memory for trend data management in .CSV/.TXT file format.
- External SD Card interface.
- Real time clock and calendar.
- Communication
    - MODBUS RTU RS-485, Ethernet Interface and USB Interface
- ESD protection



Sensor: Flow, Dewpoint
Pressure, Current

Fig 1: Functional Diagram of the Product

- Four Digital Input and Four Digital Output control.
- Analog Output control and pulse IN/OUT.
- Wi-Fi module optional interface.
- Alarm Settings and control for each channel.
- Current/Voltage display for each channel.
- Security locks for log settings and configuration.
- ABS Enclosure with IP55 protection class.
- Each channel input will deliver 12/24 Volts for Sensors power through DCDC boost converter.
- Optional WiFi and to connect to IoT Cloud like Thing Speak for remote monitoring.

For further details:
Dr.M.Kannan M.E., Ph.D
IEDP & KCARDS Coordinator
Kathir College of Engineering
"Wisdom Tree", Neelambur, Coimbatore
8870599199, 9597420107, kcards@kathir.ac.in