

prompt

Bulk Milk Cooler Monitoring System



- * Weighing data can be logged & tracked.
- * Temperature data can be logged & monitored.
- * Operation of compressor can be monitored & efficiency can be analyzed.
- * Power supply through generator or direct line can be monitored.

Above mention all the data can be logged, monitored, controlled & can be transferred directly to the central server through GSM.

Bulk Milk Cooler Monitoring System

Overview

Bulk milk cooler monitoring system is used to measure quantity and temperature at BMC (Bulk milk cooler). System capture quantity, temperature, Generator ON status, Agitator ON status and Compressor ON Status at certain time interval and drives to central server through GSM.

Technical Data	
Processor	PIC32 Microcontroller
Display	LCD – 20 Characters x 4 lines with back light
Storage/Media Type	Micro SD
Capacity	2 GB (in-built) – expandable up to 8 GB – Unlimited data storage
File System for USB Pen Drive	FAT32
External Interface / Connectivity	a. 2 UART provided allows connecting two different types of RS232 enabled devices to device a. Real time data capture using RS232 protocol b. One USB port allows connecting USB Mass Storage device to device (e.g. to connect USB Pen Drive) c. Inbuilt 4 x 4 matrix keyboard d. Thermal Printer interface allows connecting Thermal Printer built in optionally. e. GSM Module for data transfer using GPRS.
Clock	Built-in Real Time Clock
Environment	Operative temperature: 0 to 50 Degree Celsius (32 to 122 F) Relative humidity: 5% to 85% RH non condensing -village dusty atmosphere, housing made up of "S S 202"
Power Supply	180-260 Volts, 50 HZ
Power Consumption	33 Watts with Thermal Printer (3 Watts without Thermal Printer)
Quantity Measurement Instrument	Level Measurement or Load Cell base weighing measurement
Accuracy	For Level Measurement base system: 1mm Accuracy for level measurement For Load Cell base Measurement: 2 tone → 500gm, 5 tone → 1Kg, 10 tone → 2 Kg, 20 tone → 5 Kg
Security	Secure data transfer using "AES 256 bit Encryption"
Database	- An ACID (atomicity, consistency, isolation, durability) compliant embedded relational database management system contained in a small library - Zero configuration - Server less - Secure - Fast Data Storage and Retrieval
API/SDK	Web based application used at server.
Dimension (L x B x H)	21.3 x 5.0 x 17.5 (cm)
Battery Backup	30 hrs (without printing)
In The Box	a) 10 Meter paper roll - 5 qty b) Power lead 1.5 M with plug top - 1 qty c) Interface cable for electronic weigh scale or level measurement sensor

Features	
Configurable	The Device is configurable through software.
Security	- Role based user login and access to different menus. - Data transfer using secure AES-256 encryption algorithm
External Interface / Connectivity	Rs232 interface of weighing scale RS232 interface of Level Indicator RS232 interface of Temperature Module Generator Input to get its status Agitator Input to get its status Compressor Input to get its status
Level Conversion Chart	- Level Conversion chart is according to tank manufacturer. Which convert milk level into milk quantity. - User can download level conversion chart into device using Pen drive or through GPRS.
Data Capture	- Following data capture from device as per time interval set in system master Date and Time, Milk Quantity, Milk Temperature, Generator ON Status, Compressor ON Status, Agitator ON Status. - During Maintenance mode all sensor are not work and so data capture is hold during this period.
Masters	- Device allows following Masters be configured through USB Pen drive, GSM or manually (Add, Edit, View). BMC Master, User Master, Level Conversion Chart Master, GSM Master, System Master, Hardware Master
Data Transfer	- All master import into device using Pen drive or through GSM - Data (Date Time, Quantity, Temperature, Compressor ON Status, Agitator On Status, Generator ON Status) transfer to server using Pen Drive or GSM Module.
Shift Close and Dispatch	- After completion of milk collection of particular shift operator can close shift. At that time operator have to enter purchase quantity, Average FAT and Average SNF. - During Dispatch of milk, device generate one slip from thermal printer which contains shift closing details as well as dispatch details (like Purchase Qty, Actual Qty, Compressor ON Duration, Agitator ON Duration, Generator ON Duration, Temperature)