

Techsquare

ELECTRONIC CONTROL SYSTEMS AND AUTOMATED ENGINEERING

BANGALORE

AN ISO 9001 : 2015 COMPANY

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Company Profile

Techsquare was established in 2001 for development of industrial and commercial automated systems and electronic control units.

Industry focus

We have a wide range of solutions for industrial and commercial applications. Our product have been designed and developed with high precision and accuracy .These are tested and calibrated in precise environment.

Applications:-

- **Defense Solutions**
- **Industrial Automation**
- **Building Automation Products**
- **Sensor Applications.**
- **Remote Control Systems**

Defense Solutions: -

Re-engineering process

– Analysis of existing circuits
– Understanding logic flow
– Measurement of signal/server inputs
– Analysis of Architecture

Design & Development process

– Design of circuits
– Indigenization of analogue component
– Design of software-controlled processor
– High frequency power supply designs with higher ampere current

Industrial Automation:-

We have wide range of solution for process automation, DDC (Direct Digital Controller),PID Controller(Proportional Integral Derivatives),We also make custom built HMI(Human Machine interface) for SPM(Special Purpose Machine),We have Control solutions for Stepper Motor, servomotor, A.C. Motor, D.C. Motor.

Building Monitoring Automation Products: -

1) We mainly focused on clean room HVAC (Heat Ventilating and Air Conditioning) control automation.

2) We have a wide range of control systems that not only controls the parameters like Temperature, Pressure, Humidity Etc precisely, it also an energy efficient.

Sensor Application:-

We have a wide range of sensors for different industrial and commercial automation systems, like proximity Sensor, limit Switches, Pressure Sensor, Humidity Sensor, Air velocity Sensor, Infrared Sensor, Optical Sensor Etc.

Remote Control Systems:-

We have two types of remote control systems.

- Wired Remote Control Systems
- Wireless Remote Control Systems

Wired Remote Control Systems:-

We use different physical layer like Rs-485, Rs-422, Rs-232.

Wireless Remote Control Systems:-

We use high frequency R.F.(Radio Frequency) for noise attenuation as a physical layer. We also have built custom designed wireless remote control unit.

SCOPE OF WORK:-

1) Printed Circuit Board (P.C.B) Design And Manufacturing

2) Power Supply Design

3) Hardware Design And Development

4) Software Development

5) Solar Based Products

6) Industrial Level And Process Control

7) Clean Room Indicators And Controllers(HVAC)

1) **PRINTED CIRCUIT BOARD (P.C.B) DESIGN AND MANUFACTURING:-**

We design and develop all types of P.C.B.Single layer, Double sided layer and Multilayer with PTH (**Plated Through Hole**) and SMD (**Surface Mount Devices**) on glass epoxy multi layer, FR4, Standard 1.6mm thick, 35u copper with SMOBC, HAL and LP.The track thickness we can handle is greater than 10 mil and the size of the component is 0603.We also make custom designed board. We have latest tools (**Software**) which makes the design time very less. We also make custom VME and back plane.

2) **POWER SUPPLY DESIGN:-**

We have different types of power supply for different application. Voltage based power supply, current based power supply. Switch mode power supply ETC.We have designed for high power devices like control panel, control box any many more.

3) **HARDWARE DESIGN AND DEVELOPMENT:-**

We make custom designed hardware for special purpose application(S.P.M) from the concept to the end product. We basically do a prototyping first by building the GPB (General purpose board) and it will be tested for a period of time and then we record all the parameter and critical data and then design a final hardware.

4) **SOFTWARE DEVELOPMENT:-**

We write assembly level language for various microprocessors and microcontroller devices, we have many protocol software and we are capable of writing system level software. We have written for automation software for HVAC, lighting heating, for remote sensing and controlling, and for traffic control systems.

5) **SOLAR BASED PRODUCTS:-**

We have various solar based products like lantern, home lighting, street lighting and charge controller for higher current rating. We are building a microprocessor based smarter solar charge controller and inverter to minimize the loss due to conventional method of logic gate design. The overall efficiency of conventional circuits is around 65% ,by implementing the microcontroller circuits the overall efficiency is increased to 85%.

6) **INDUSTRIAL LEVEL AND PROCESS CONTROL:-**

We have made industrial highly reliable level controller for hard water, when we use the conventional level controller for this type of water the sensor placed the water will get salt deposition hence with matter of days it will stop working, hence we have built digital based level controller for greater reliability.

We make custom designed process control systems for various industries depending upon the application needed, by using different industrial sensors like proximity sensor, limit switches, optical sensor ETC.

7) CLEAN ROOM INDICATORS AND CONTROLLERS(HVAC):-

We make indicators for clean room and well as to clean room equipment; indicators are especially for

a) Laminar Flow Bench

b) Bio-safety Cabinet

c) Clean rooms

d) AHU (Air Handling Units).

We provide different types of controllers to control the parameters in clean room like Temperature, Humidity, and Room pressure.