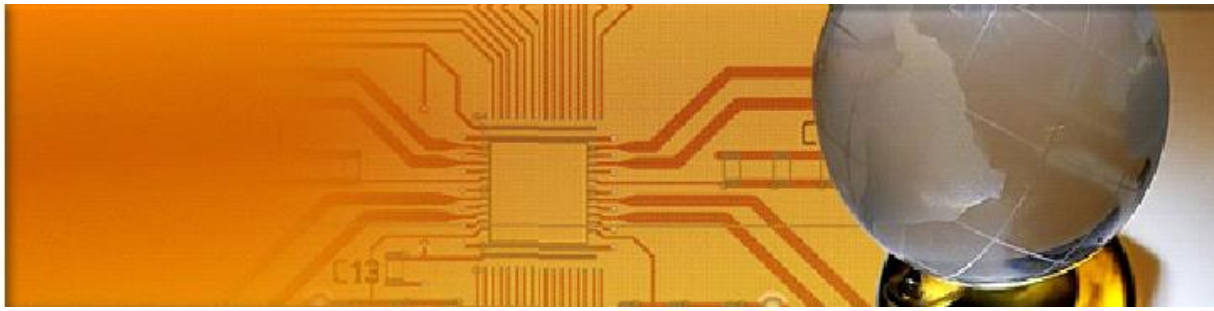
G.G.Tronics India Private Limited

G.G.Tronics
VISUALISING SAFETY SYSTEMS
AN ISO 9001 CERTIFIED



NEW

Multi Section Digital Axle Counter MSDAC-G39

Versatile Axle Counting System Configurable up to 40 DP and 40 Sections

Overview

- MSDAC-G39 is a fail safe, reliable and user friendly 2oo3 architecture based Axle Counter
- Complies with RDSO/SPN/176/2013 Ver 3.0
- Configurable as SSDAC and HA-SSDAC as per RDSO/SPN/177/2012 Version 3.0 with 2oo3 Evaluator and single / dual detection
- Designed to meet Cenelec SIL-4 standard EN50126, 50128, 50129, 50159 Part A and B

Configuration

- MSDAC – G39 basic system (support 12 I/O modules)
- MSDAC – G39 extender system
  (support 16 I/O modules)
- Detection Point card MDP-G39 supports 2 DP / card
- Section card MSC-G39 supports 1 Section / card

Features

- Supports up to 40 Detection points and 40 sections
- Works with 24 VDC power
- Fault tolerant data communication of V.23 as per CCITT standard and Supports communication on PIJF cable, half quad copper, OFC on voice and data channel and RF communication with Cenelec 50159 Part B
- Supports SSI interface through fail safety telegrams and data logger
- Supports train speed up to 250 KMPH
- Supports hot swapping of card modules in Central Evaluator

Features continued....

- Supports hot swapping of card modules in Central Evaluator
- Self-Diagnostic and configuration checking between CPU's.
- Event logging up to 40000 events, Remote Event Downloading facility available through internet
- Capable of extending Central Evaluator in daisy chain form
- Supports 16 numbers of Vital and Non Vital inputs and outputs for multiplexing
- MSDAC-G39 can be used in various railway applications like Station Yard, Block Section, Intermediate Block Section, Automatic Section, Level Crossing control, bridge track circuiting etc
- Field DP system can be configured as standalone SSDAC system (2DP-1S, 3DP-1S, 3DP-2D and 3DP-3S) without Central Evaluator
- The Field Detection system FDP supports various mode of operation
- 1C1E : Single communication with single Evaluator
- 2C1E : Dual redundant communication with single Evaluator
- 2C2E : Dual independent communication with two Evaluators
- Stable operation at -10 to 70 Degrees Celsius

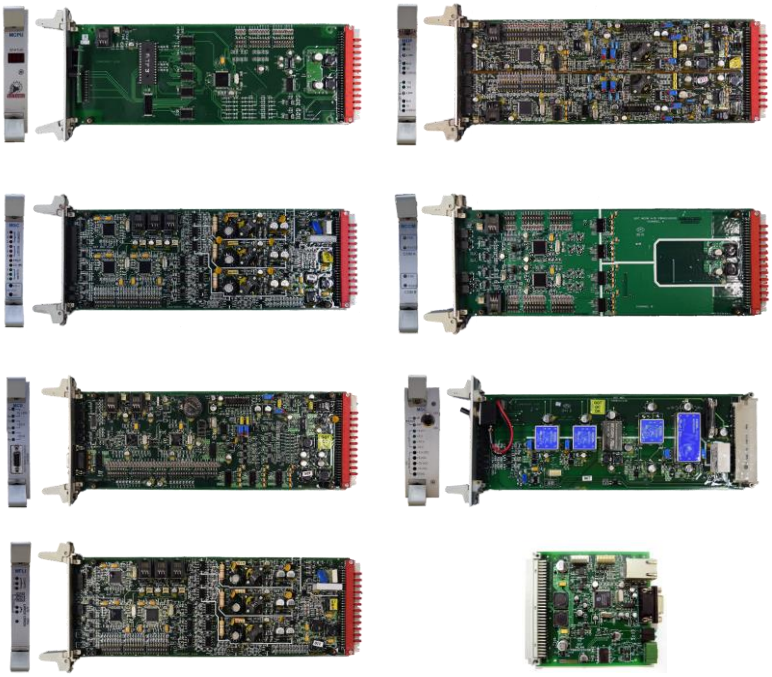
Reset

- Co-operative — Prep mode with/without piloting
- Direct — With/without Line Verification

2oo3 Architecture - Multi Section Digital Axle Counter - MSDAC-G39

System

- Microcontroller based fail-safe embedded system
- Complete SMT technology, miniaturized 3U card frame
- Fixed pair communication, CRC check with AES128 Cryptography algorithm. Unique addressing of units ensures fail-safety.
- User friendly GUI aids to configure DP's and Sections
- Units can be housed in location boxes near the tracks



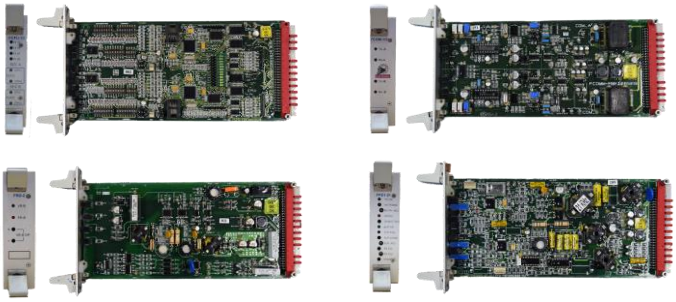
MSDAC – G39 System & Card Modules

MCPU	: Central Processing Unit
MDP	: DP card supports 2 DP
MSC	: Section card supports 1 section
MCE	: Communication
MDC	: DC-DC Converter
MCOM	: MSDAC to MSDAC Communication
MLAN	: LAN Interface

Modular Reset Box

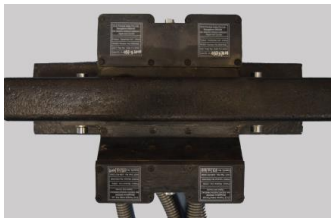
FDP-G39 Field DP system & Card Modules

FCPU	: Central Processing Unit
FCOM	: Communication
FPD1/FPD2	: Wheel Detector
FRD	: Relay Drive Card
FDC	: DC-DC Converter wide range

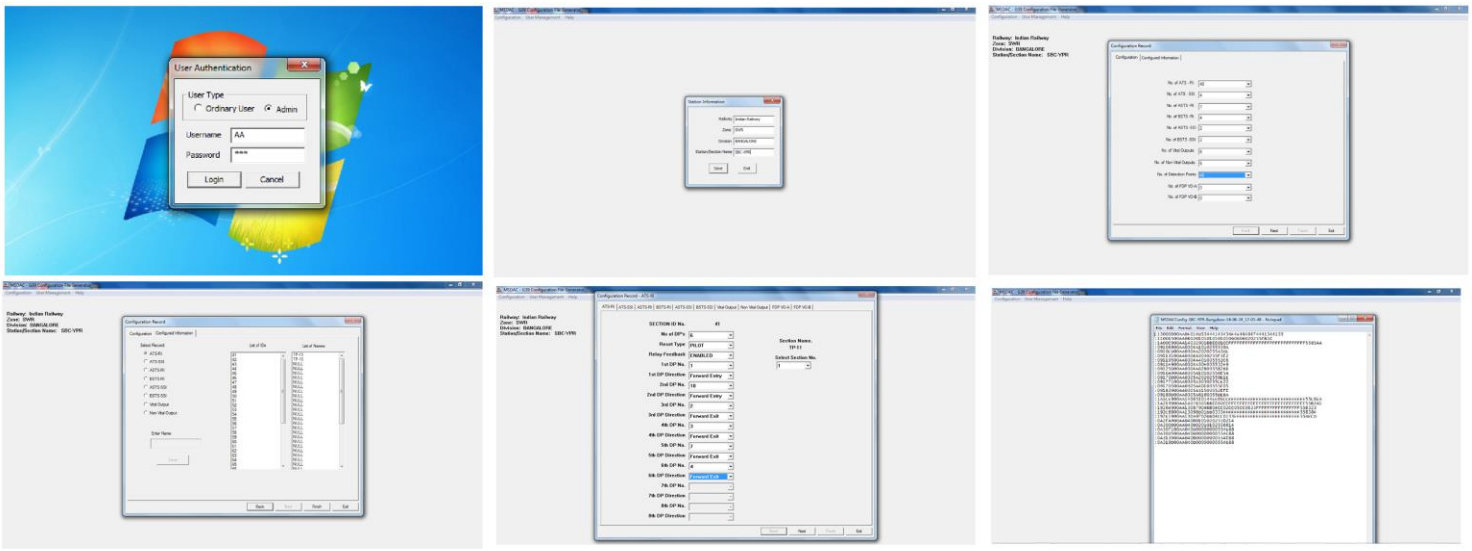


Axle Detectors

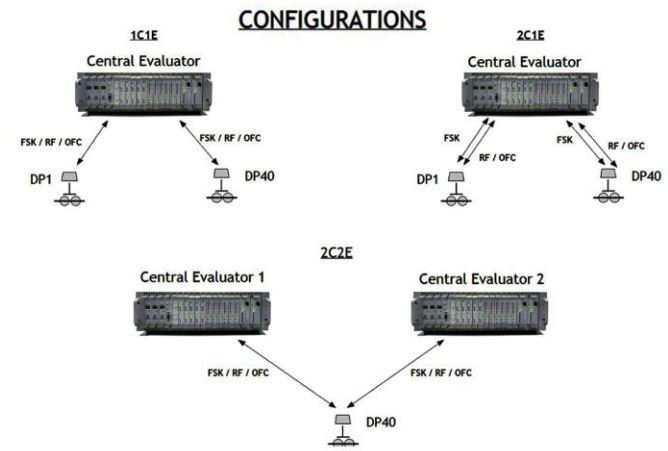
- Web mounted on track, works with 90-R, 52Kg, 60Kg rails
- Phase detection principle employed
- Signals fed at 21Khz and 25Khz to Tx coils at 60V RMS
- Supports Axles above 330mm and 550mm (buyer selectable)

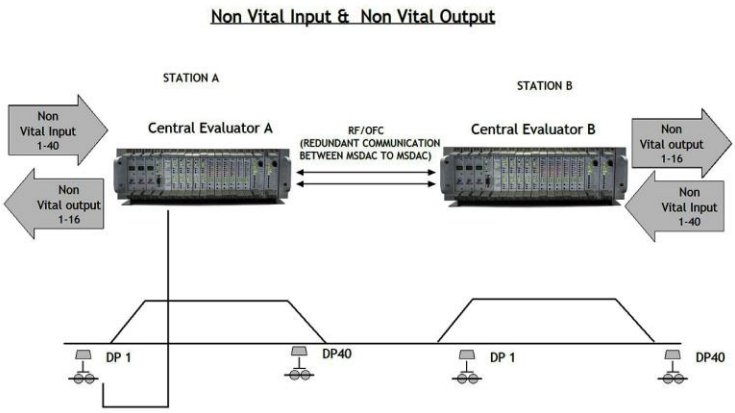


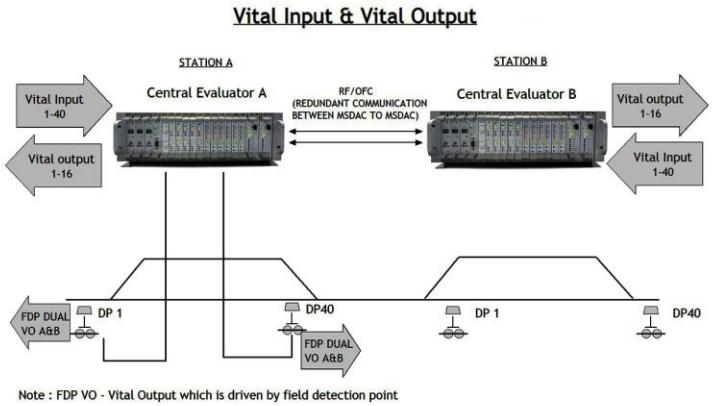
GUI Configuration of MSDAC-G39

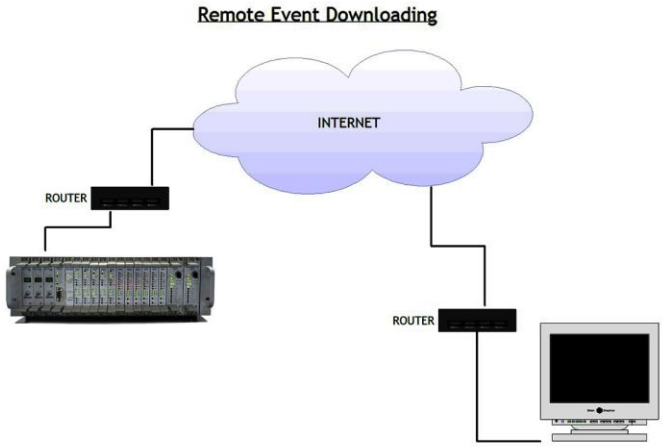


MSDAC-G39 Configurations

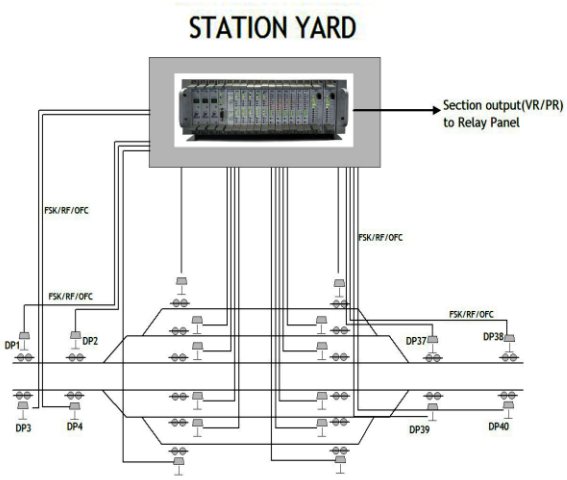


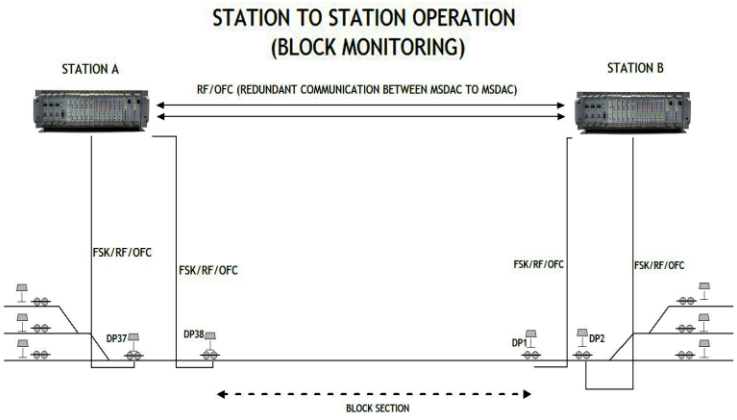


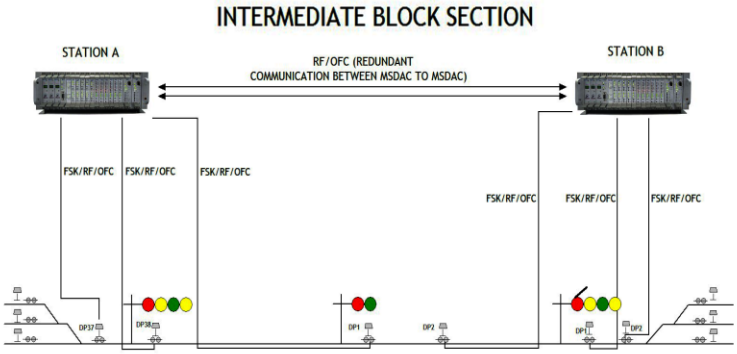


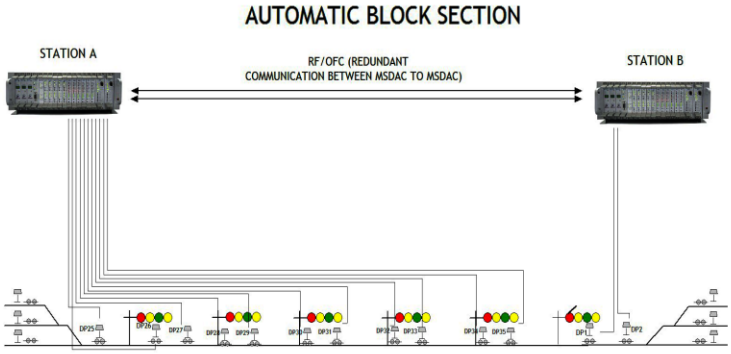


MSDAC-G39 Applications

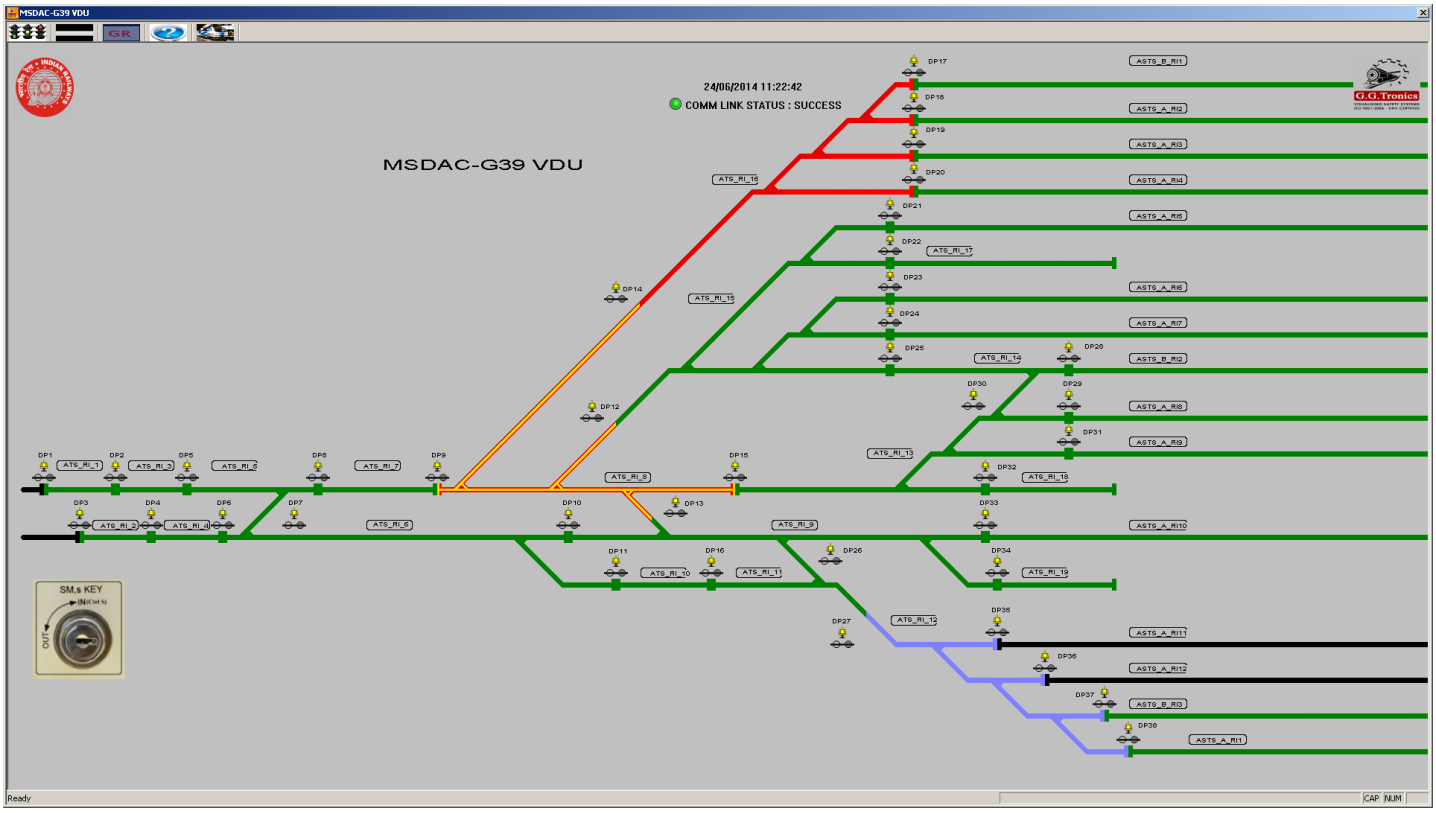




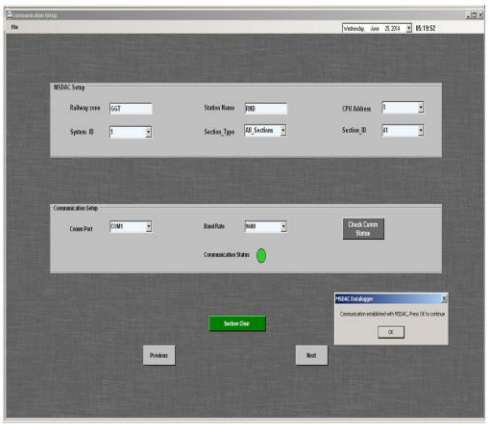


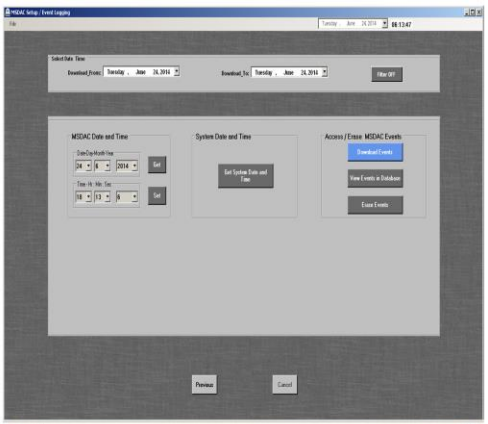


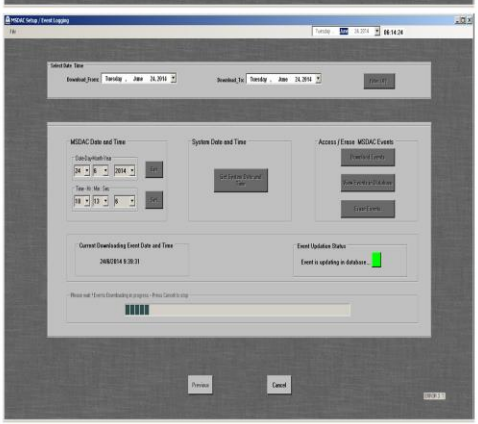
VDU Panel of MSDAC-G39

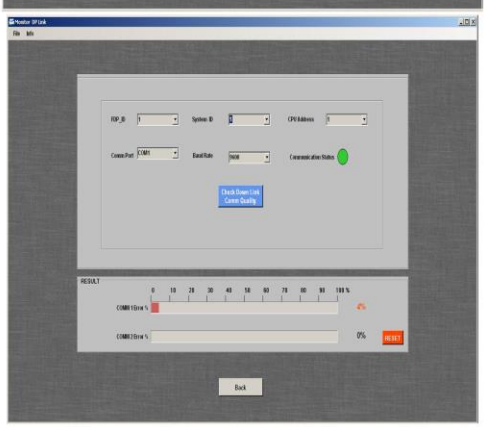


Event Downloading of MSDAC-G39









About us

- Established in 1991
- We value Customers, professionalism, quality, safety and ethical business practices
- Meeting challenges is a way of life

Vision

- To be a leading solution provider right from design, development, manufacture, testing and Commissioning in Railway Signaling and Industrial Automation sectors

Mission

- Committed to satisfy customer expectations with a focus on continuous improvement

Our People

- Inherent competency and committed team of professionals in respective domains

Our Strength

- Design, Manufacture, Supply, Installation and Commissioning of Safety Embedded Systems
- In-House Embedded System R&D
- Safety System design capability
- Product Engineering with PCB and mechanical design facility
- Hardware and Software safety validation
- System Hazard Analysis
- Reliability Analysis
- Incoming and Outgoing Quality Assurance
- In-House Automatic Testing of PCB's using In-Circuit Tester
- In-House Environmental Stress Screening
- Antistatic protected SMD and Leaded components production line
- In-House mechanical fabrication and Panel building

Quality policy of the company

"To provide value added products and services to the automation and transport control Sectors by continuously upgrading technology quality and reliability"

Total commitment by management for Quality Assurance right from Design, Development, Production, Supply, Installation and Commissioning Products meet environmental specifications laid by customers

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