

# **Advanced System for Locomotive Control and Fault Diagnostics**

Medha's MEP system is a 32 bit, high performance microprocessor based modular system that provides complete traction and propulsion control of the locomotive with continuous monitoring and extensive fault diagnostics.

Major functions includes Engine control, Excitation control, Propulsion control, Wheel slip control, Auxiliary controls, Traction equipment protection, Fault Diagnostics, Data recording and Parameters display.

- Very cost competitive
- Increased protection of traction equipment
- Increase in traction motor life
- User configurable parameters for easy adaptation to different types of locomotives and operational preferences
- Reduction in locomotive assembly and commissioning time

- Increase in haulage capacity
- ✓ Increase in wheel-rail adhesion
- Extended comprehensive warranty, maintenance contract and other customer friendly after sales support packages
- Easily configurable to suit any make or model of locomotive (new or retrofit locomotives)

### > 4,200 Units

installed worldwide



Locomotive Control System





Display unit for control system





### **Standardized Solutions**

To suit locomotives of different make, model, type and HP rating, with nominal software and hardware variations

- Works with any combination of traction equipment make, model or type (AC or DC traction)
- For new locomotives and for retrofit during repowering, rebuilding or major overhaul

# **Large Number of Installations**

Since 2002, over 4200 systems have been installed on different make and types of locomotives in various countries

# **Easy Installation and Commissioning**

Available as ready to install control panel with all electrical components, reduces Locomotive assembly and commissioning time by >15%

## Complete packaged solution Inclusive of,

driver display | event recorder | driver alerter | speedometer | sensors | interconnecting cables | other components and subassemblies

#### **Features**



### **Communication and Interfaces**

Using CAN, ethernet or other channels for interface with Engine ECU unit, HEP, Surveillance system, ATP and other subsystems of the locomotive



#### **Auto Test Modes**

Various auto and manual test modes, including load box, auto test for relays, manual test of inputs and outputs, self load test, meters test, excitation test, radiator fan tests and more ...

## **Compliance to International Standards**

IEC 60571 IEC 61373 (shock and vibrations)

IEC 60068 (Environment)

IEC 61000 (EMC)

IEC 62236-3-2 (surge, EMC, ESD, EFT)



## **Safety Features**

Protections for low water level, low lube oil pressure, engine overspeed, locomotive overspeed, traction motor overspeed, engine overload, power and control ground, traction motor overheating and many more.....



# **Extensive Fault Diagnostics and Data** analysis

Over 250 types of faults with over 220 types of parameters with fault data pack recording (1 second resolution) and easy download to laptop and USB pendrive

#### **Add-on Features**

- ♠ Locomotive remote monitoring
- Fuel saving solutions
- Distributed power control Fuel
- level sensors
- Auto creep control and many more...













More than 4200 locomotives of different types use Medha's Locomotive Control system worldwide, including in the US, India, Bolivia, Indonesia, Myanmar, Tanzania, and others.

Operating on locomotives from EMD, GE, Alstom, Alco, and others.

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