

MAGNETIC LINER ENCODER SYSTEM - MLS-410

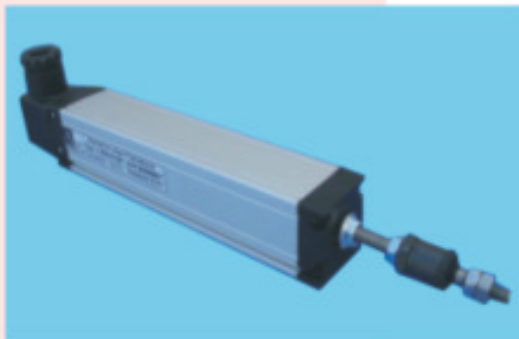


- ✓ Stroke up to 750 mm
- ✓ Magnetic non contacting
- ✓ Incremental measurement of displacement
- ✓ Push Pull or TTL line driver Output
- ✓ Resolution 0,005mm - 0,010 mm - 0,025 mm - 0,80mm
- ✓ Infinite mechanical life
- ✓ High operating speed 5 m/s
- ✓ Twin bearing actuating rod
- ✓ Mechanical fixing and self aligning linkage 2 ball joints
- ✓ Free pivot heads with a large angle of free movement ($\pm 30^\circ$)

TECHNICAL SPECIFICATIONS

Resolution	Standard : 5um, 10um, 25um, 62.5um (or on request)
Output Type	Push-Pull or TTL Rs422 Line Driver
Output Signal	A, /A,B, /B,Z, /Z
Input Current	Maximum 40 mA (Per Channel)
Power Supply	PPL:10.. 30VCD OR TTL:5 VCD
Housing Material	Sensor : Nickel Plated Aluminum Scale Profile : Anodized Aluminum
Electrical Connection	Cable max. 50m
Magnetic Type Pole Length	5 mm, 2mm, 1 mm
Travel Velocity	3m/s
Repeatability	± 1 Count
Operating Temperature	-25 to +85
Protection Class	IP67
Compatible Systems	ESA, DELEM, CYBELEC

POSITION TRANSDUCERS POTENTIOMETRIC MEASURING



LTM



LTP

SPECIAL FEATURES

- ♦ Potentiometric measuring stroke up to 1000 mm
- ♦ Resolution 0,01mm
- ♦ Very long life up to 100 million movements
- ♦ High operating speed 5 m/s
- ♦ The grooves provide an excellent alternative to the usual system of
- ♦ Excellent Linearity
- ♦ Pivoting sleeve bearing
- ♦ Optional rod join

TECHNICAL SPECIFICATIONS

Resistance Element	Conductive plastic
Defined electrical range	50mm to 1000mm
Mechanical Fixing	Clamps (LTM) / 2 ball-joints (LTP)
Independent Linearity	0.2 %
Rod Material	Stainless Steel
Temperature Range	-30...+100°C
Operating Speed	5 m/s max.
Mechanical Life	100 million movements
Resistance $\pm 20\%$	5 or 10 KOhm
Maximum Input Voltage	42 V (Only LTM Series)
Power Supply (V and A Series)	24VDC
Protection Class	IP 65
Vibration	10 g

- Minimizing Production time,
- increasing productivity
- Scrape Cost Saving
- More Accurate Positioning.
- More Qualityb Parts.
- Reduced process time 80%.
- Amortizing in a short time.

*The Right Choice,
For The Best Quality....*



Regd. Offies :

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Sayali Apartment, Talegaon Dabhade,
Tal. Maval, Dist - Pune - 410 506. Maharashtra, INDIA

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Phone : + 020-65117477

**HIGH
QUALITY**

**DELIVERY
FROM
STOCK**

**BEST
SERVICE**

EDM - 500 X 300



Item Code : 500X300

Our organization is engaged in manufacturing and exporting a comprehensive range of **EDM's - 500 X 300**. These **EDM's** Machines are facilitated with reverse servo for reverse sparking & reverse polarity for every operation. Besides, the multistage anti-arc is in-built for 24 hrs operation.

Features :-

- Very low power consumption.
- Like - to - like machining.
- MOSFET For superior finish.
- Carbide cutting.
- Optimum performance.
- NRB for co-ordinate table.
- Impulse flushing.
- Ergonomically designed control panel.
- Day / night mode for 24 hrs operation.
- Auto positioning for audiovisual Signal.
- Reverse servo for reverse sparking.
- Reverse polarity for every operation.
- Adjustable overflow.
- Multistage anti-arc in-built

Technical Specifications:

- Machine Tool: 500 x 300
- Work tank size: 725 x 415 x 315 mm
- Work table size: 500 x 300 mm
- T slots for fixing: 3 of 10 mm
- Longitudinal travel (X): 280 mm
- Transverse travel (Y): 200 mm
- Quill travel (Z): 250 mm
- Max. permitted load on the table: 175 Kg
- Max. electrode weigh: 50 Kg
- Max. height above the table: 250 mm
- Servo system (z axis): DC servo
- Dielectric capacity: 250 Liters
- Filter element : 10 μ m paper filter
- Pump motor rating: 1HP, 3 phase
- Overall dimensions: 1420 x 1140 x 2100 mm

Pulse Generator :-

Max. working current: 35 + 2 Amp
Max. MRR (Copper to Steel), (Graphite to Steel),
(Steel to Steel): 220 mm³ / min.,
370 mm³ / min. & 130 mm³ / min
Min. electrode wear: < 0.1 %
Surface finish (Copper to Steel): 0.8 μ Ra
Connected load: 3 KVA
Power supply: 3 Phase, 145 V* Ac, 50 Hz

Dielectric Unit :-

Dielectric capacity: 250 Liters
Filter element: 10 μ Paper • filter



...ONE STOP SHOP
FOR MANUFACTURING
SMALL EDMs
PANEL BUILDING
SPMs
ON SITE SUPPORT



- Strong Technical and Engineering Support

- Complete In-House Setup

- Quality Assurance

- On-time Delivery



HIGH PERFORMANCE

ACCURATE MEASUREMENT

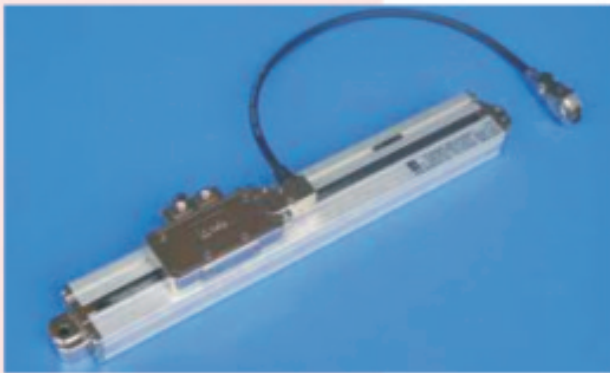
ECONOMIC SOLUTION

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PRESS BRAKE SCALE MLS-420 / LTS



- ✓ RS422 Differential Quadrature Output
- ✓ Portable Reference Point
- ✓ Socket System Sensor
- ✓ Smooth Slide
- ✓ Contactless System
- ✓ Protection Class IP67
- ✓ Large Mounting Tolerances
- ✓ Usable For Left or Right in Same Scale
- ✓ Compatible with Delem, Cybelelec and ESA Controllers

Especially it is recommended for application with a measuring length of to 2040 mm in high speed and high Vibration environments and small places.

MLC 420 is usable right or left in same scale with its portable reference point. It has large mounting tolerances with its ergonomic design.

TECHNICAL SPECIFICATIONS

Resolution	5µm, 10µm, 25µm, 62.5µm (or on request)
Output Type	Push-Pull or TTL Rs422 Line Driver
Output Signals	A, /A, B, /B, Z, /Z
Input Current	Nominal 50 mA
Output Current	70 mA
Power Supply	PPL: 10... 30VCD OR TTL: 5 VCD
Electrical Connection	Cable max. 50m
Housing Material	Aluminum
Magnetic Tape	B1, B2 & B5 Nitril rubber
Travel Velocity	3m/s
Repeatability	+/-1 Count
Operating Temperature	-25 to +85°
Connection	Standard : 5 or 8x0,14mm shielded Cable Optional : Connection for Delem, Cybele, ESA with D-Sub 9 Din
protection Class	IP67



- ✓ Rs 422 Differential Quadrature Output
- ✓ Excellent Stability of the Signals
- ✓ Contactless System
- ✓ Robust Shielded Metal Enclosure
- ✓ Fully Sealed, Protection Class IP67
- ✓ Resistant to Dirt, Humidity and Dust
- ✓ Withstands Shock and vibration
- ✓ Single Reference Marker
- ✓ Compressed Air Inlet at the Scale End Blocks
- ✓ Double Protection Along the Sliding Side (Four Lip Seals)

TECHNICAL SPECIFICATIONS

Defined Electrical Ranges	50 - 75 - 100 - 120 - 150 - 200 - 170 - 200 - 220 - 250 - 270 - 300 - 320 - 370 - 400 - 450 - 500 - 550 - 600 - 650 - 700 - 750
Resolution	5µm, 10µm, 25µm, 62.5µm or 80µm Other models on request
Output Type	Push Pull or TTL Line Driver
Output Signals	Standard with socket A-8 Channels Cable models ABZ or A,B,Z/A, /B, /Z Channels
Electrical Connection	4 pin female socket
Power Supply	PP : 24VCD TTL : 5VDC
Repeatability	+ 1 Pulse
Protection Class	IP65
Temperature Range	-20 C +85 C
Life	Infinite
Mechanical Fixing	With 2 ball joints
Rod material	Stainless Steel

LST is a high precision Magnetic Linear Encoder LST System that operates incremental principal. It consists of a sensing head and a magnetically encoded tape. Magnetic tapes are commonly made from a magnetic tape itself made from Strontium ferrite bonded into a Plastic or rubber (elastomeric) matrix which is then bonded onto a steel support.

The magnetic tape system is mounted on the actuating rod and is coupled free of backlash; this guaranteeing the highest accuracy and the longest lifetime.

MLS SERIES MAGNETIC LINEAR SCALE



Authorized Dealers of ATEK Brand Products For all over india. MLS series magnetic linear scale present their user high accuracy and usage advantaes. the magnetic system never influenced negatively from the environment condition as dust, chip, humidity and cutting fluid, they work without any problem. Because of the contact less working there is no friction, they have unlimited leadtime mechanically, they work without any Reading Heads and Magnetic Tape System can be used together :

LINEAR MAGNETIC SCALE



Open Type Magnetic Scale
(Magnetic tape with sensor)



Closed Type Magnetic Scale
(with PS2 profile)

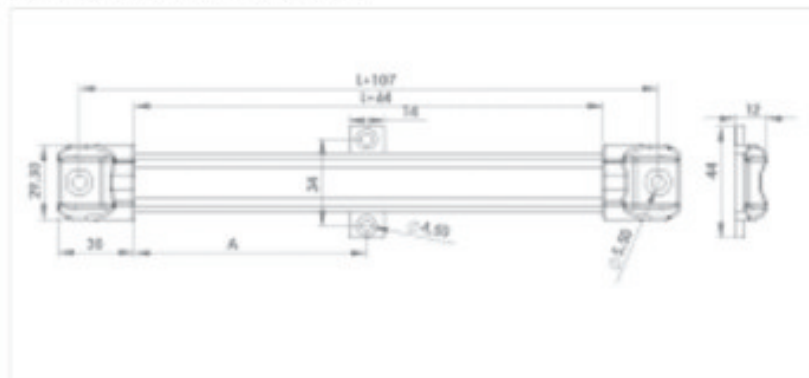
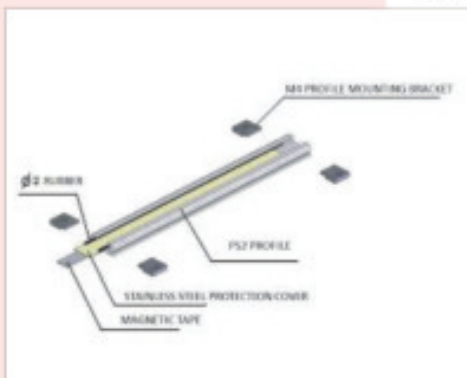
Magnetic tape is supplied with non-magnetic stainless steel cover for physical protection. for its fixing an adhesive tape is pre-mounted. Magnetic tape is composed by three layers a flexible magnetic tape made of a Plastic Material, upside cover stripe. In the profile systems, magnetic tape integrated in the Profiles. PS1 systems mont important specially of the system is easy assembly. "slim" Profile is highly rugged, flexible plastic magnetic tape can be applied a machine tool easily. It can be used for all reader sensors.

- High Resolution up to 0.005 μm .
- Tape inflat and rugged aluminium profile.
- Stainless steel cover protect.
- Best Technology in smll dimensions.
- Shilded metal enclosure.
- Easy Mounting.
- Contact - less and wear free system.
- High resistance to vibrations.
- Protection class Ip67.
- Resistance to humidity.
- High accuracy.
- Reliability reading transducer.
- Measuring lenghts of up to 100 mtr.
- Connection Cable upto 20 mtr.

Mechanical Properties

Resolution Types	5 μm , 10 μm , 25 μm and 62.5 μm , or on request
Output Circuit	Push-pull or TTL Rs 422 Line Driver
Output Signals	A, /A, B, /B, Z /Z
Input Current	Max. 40 mA per channel
Power Supply	10...30 VDC+ \pm 20 or 5 VDC+ \pm 5
Dimensions	See drawing
Housing Material	Aluminium
Connections	Up to 100 m Cable length on request
Gap between tape and sensor	Up to 12.5mm (Depend on pole pitch)
Travel Velocity	3 m/s
Magnetic Tape Type	B5 nitrile rubber temperature magenetic tape
Measure accuracy	+ 1Increment
Repeatability	+ 1Increment
Operation temperature range	-25...+85
Protection Class	IP67

Magnetic Scale PS2 Profile System



END TO END SOLUTIONS

- One Stop Shop for all your manufacturing needs.
- State-of-the art manufacturing facilities.
- Strong Technical and Engineering support.
- Quality Assurance.
- Proven track records.
- Superior Sales and Service Support.
- We are Dealing with Digital Read out System. (DRO)

EXPERTISE



OPTICAL PROFILE PROJECTOR



Profile Projector - PRO300H

TECHNICAL SPECIFICATIONS

Screen :

- Fine ground glass screen of 300 mm clear aperture.
- Horizontal model, light travels horizontally.
- Useful for cylindrical jobs or heavy jobs.
- Cross-wire making on screen glass.
- Rotating screen with 360 markings.
- Vernier scale with 1' least count.

Magnification / Optics :

- 20X / 30X

Coordinate slide :

- X-Y stage measuring top size 360mm X 200mm.
- Made in CI and Linear Bearings for durability and smooth operations.
- X-axis movement : 200mm (+/- 100mm)
- Y-axis movement : +/- 60mm (only focusing)
- Z-axis movement : 160mm (+/- 80mm)

Illumination :

- Main illumination : 24V, 150W halogen lamp
- Episcopic illumination : 24V, 70W two halogen lamps
- Cooling : Super efficient radial blower cooling system.

Power supply :

- 230VAC single phase.

Projection system :

- Diascopic/Contour system : Shadow is projected on the screen.
- Episcopic : Job surface illuminated.

External Features :

- Main body is made in fabricated steel.
- Whole body is powder coated for longer life.

DRO Measurement Features :

- 5 micron least count.
- Linear measurements.
- Arc/Radius measurements.
- Angular measurements.
- RS232 PC support.

Optional Features :

- Various "Screen Overlay Charts" can be provided according to customer's needs.
- Worktable customization at marginal cost.
- Provision for Between Center job mounting.

Models available (Screen Diameter):

- 200mm, 300mm, 450mm, 600mm



Profile Projector - PRO300T

TECHNICAL SPECIFICATIONS

Screen :

- Fine ground glass screen of 300 mm clear aperture.
- Vertical/Table top model, light travels vertically.
- Useful for press parts, cutouts or other lightweight jobs.
- Cross-wire making on screen glass.
- Rotating screen with 360 markings.
- Vernier scale with 1' least count.



2D Vision measuring machine

VM series 2D Vision measuring machine ,which with high resolution CCD imaging system, precision worktable and 0.001mm resolution linear scales as measurement standard , therefore , the work piece can be magnified 20-180 times for precision measurement . It particularly suited to measure regular curves and ultra precision parts. the z-axis column and the base of VM series are made by high precision granite, that ensure the instrument's dynamic balance, accuracy and stability.

□ The Z axis of VM series two dimensional image measuring instrument has double linear guide rail structure.

□ VM series which has loaded full functions geometric measurement software, so VM can take all the complex accurate geometric measurements.

To save data, make further analysis and processing, VM series can output in DXF, WORD and EXCEL mode, it can be edited by CAD software as well.

That's makes work such as SP/QC/QA easier and more efficient.

PHOTOELECTRIC LINEAR ENCODERS



L50

Modular photoelectric sealed linear encoder L50 has measuring length from 3240 mm up to 30040 mm.

The encoder is used to convert linear displacements of key machine components into electrical signals containing information about the value and direction of the displacement.

The encoder determines position by detecting light reflected of a metal band. Metal band with 40 μm pitch scale is fixed in rigid aluminium housing with protection lips.

The encoder consists of several separate rigid modules with length up to 2.0 m, which are joined together, and reading head.

Two versions of output signals are available:

- L50-AV - Sinusoidal signals, with amplitude approx. 1 Vpp, require external
- subdividing electronics. Resolution 0.1 μm is possible with respective external electronics.
- L50-F - Square-wave signals, with integrated subdividing electronics for interpolation x1, x2, x5, x10.

L23

Modular sealed photoelectric linear encoder L23 has measuring length up to 20 meters and more on special order.

The encoder is used to convert linear displacements of machine key components into electrical signals containing information about the value and direction of the displacement.

The encoder operates in reflected from metal band light beam. Metal band with made on its surface grating scale is fixed in rigid aluminium housing with double protection lips.

The encoder consists of several separate modules with length up to 3,0 m, which are joined together, and reading head.

The standard encoder has three square-wave TTL output signals: 2 main signals, shifted by 90 degrees and one reference signal.



ABSOLUTE ROTARY ENCODER

Absolute singleturn and multiturn (battery buffered) solid shaft rotary encoders are used for generation of coded output signals which provide information about controlled object absolute position.

In singleturn version rotary encoder AK36 has resolution from 9 up to 21 bit per revolution. Output signals interface is BiSS C or SSI. Operating principle is photoelectrical.

In multiturn version AK36 has singleturn resolution from 9 up to 21 bit per revolution with 12/16/20/24 bit resolution of multiturn counter on BiSS C interface. With SSI interface the encoder AK36 has resolution from 9 up to 21 bit per revolution with 9 up to 40 bit resolution of multiturn counter. Battery is placed inside of encoder. Operating principle is photoelectrical and magnetic.

Absolute encoder is intended to use in robotics industry, automated and automatized lines in industry, control devices of equipment and machines, various control systems, precise machine tools and others.

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The encoder consists of several separate modules with length up to 3,0 m, which are joined together, and reading head.

The standard encoder has three square-wave TTL output signals: 2 main signals, shifted by 90 degrees and one reference signal.



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In multiturn version AK36 has singleturn resolution from 9 up to 21 bit per revolution with 12/16/20/24 bit resolution of multiturn counter on BiSS C interface. With SSI interface the encoder AK36 has resolution from 9 up to 21 bit per revolution with 9 up to 40 bit resolution of multiturn counter. Battery is placed inside of encoder. Operating principle is photoelectrical and magnetic.

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SAI 10 / 11 SERIES LINEAR OPTICAL SCALE



- Optical Incremental Encoder output A, B, Z
- 5 V TTL / RS422 Line Driver Output
- Two Square wave Signals. TTL output with 90 deg. phase difference
- Robust shielded metal enclosure
- Accuracy : $\pm 5\mu\text{m/m}$, $\pm 10\mu\text{m/m}$
- With single/double sealing technologies resistant to dirt, humidity and dust.
- Compact design, easy mounting
- High Resolution : $0.001\mu\text{m}$, $0.005\mu\text{m}$
- High tolerance to shock and vibration
- Measuring lengths: 50 mm up to 12000mm
- 60 m/min traversing speed
- Reference mark every 50 mm

SAI Series sealed Optic Linear Encoder Scales are protected from dust, chips and splash fluids and are ideal for operation on machine tools. Aluminum housing and elastic sealing lips protected the scale. Scanning carriage and guide way from chips, swarf, dirt and splash water the scanning carriage travels in a low-friction guide within the scale unit. It is connected to the external mounting block by a compensates unavoidable misalignment between the scale and the machine guide ways.

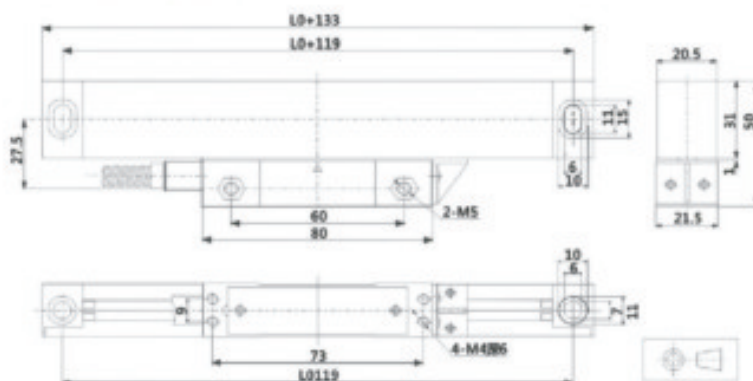
Sealed linear encoder's are available with full-size scale housings for high resistance to vibration up to 12000mm measuring length.

SAI TECHNICAL SPECIFICATIONS

Out put Circuit	TTL, RS422 Line Driver	
Measuring Standard	Glass	
Output signals	5VDC TTL Quadrature or 1Vpp Sinusoidal TTL: A, /A, B/B, Z/Z	
Resolution	$1\mu\text{m}$, $5\mu\text{m}$ or 1 Vpp Sinusoidal	
Grating pitch / Single period	$20\mu\text{m}$	
Accuracy	$\pm 10\mu\text{m}$	
Power supply	5VDC	
Dimensions	See drawing	
Housing material	Aluminum	
Reference mark	1 reference mark every 50mm.	
Travel velocity	60m/min	
Repeatability	± 1 increment	
Operating temperature	0 to $+50^{\circ}\text{C}$	
Storage temperature	-40 to $+55^{\circ}\text{C}$	
Protection Class	IP54	
Cable length	50-500mm scale	3 m armored cable
	600-2000mm scale	5 m armored cable

Special Desing Fatures:

- Scale and scanning unit protected by aluminum housing.
- Scanning unit guided on scale 5 via ball bearings.
- Coupling between scanning unit and mounting block to Compensate small errors in machine guide way.





DC 500 Model

New 2, 3 and 4 axis available ADR -10 Series Digital Readouts can meet the application in all machine tools with maximum performance and it include features that are essential for incising productivity. With high-capacity memory it is possible to save program and for the lethes 1000 pcs tool memory. 5 different languages choice is existed as Turkish, English, German, Spanish and Portuguese connection opportunity by contact probe is also available with 8+1 digit display and standered resolution values with user designated resolution, ADR 10 is designed for your all requires.

TECHNIAL SPECIFICATIONS

Axis Number	2, 3, 4	2, 3
Display	8 Digit + 1 sing	7 Digit + 1 sing
Display Resoulution	1µm, 5µm or the user can designate as requested	1µm, 5µm or the user can designate as requested
Input Singnal	Available Push Pull or TTL	Available Push Pull or TTL
Weight	2, 7 kg	1.5 kg
Power Supply Vultage	85- 265 V AC 50/60 Hz.	85- 265 V AC 50/60 Hz.
Storage Temperature	-25 - 65 C	-25 - 65 C
Operation Temperature	-10 - 45 C	-10 - 45 C
Relative Huudity	%20 - %85	%20 - %85
Dimensions (X x W x T)	202 mm x 320 mm x 84mm	202 mm x 320 mm x 84mm
Housing	Aluminium Injection Housing	Plastic Injection Housing
Measuring Limits	-99999, 999 mm - 99999, 999 mm	-99999, 999 mm - 99999, 999 mm

ENGINEERING EXCELLENCE

Massive Engineering pvt. Ltd. (MEPL) Company Specialised in EDM (Sinking EDM) Manufacturing. Our core expertise in is Control Panel Manufacturing right from Concept, Desing, Inspection and Testing as per Customer requirement. Backed by strong Technical guidance. MEPL offers the State of the art small Sinking EDM.

A perfect blend of Superior Technical Expertise, Sound Project Management capabilities and commitment to the highest standards of Quality, Efficiency and dedicated team, MEPL has achieved its niche position.

Our experienced and dedicated team of Engineers, Officers and hardwarking Contractors strive to ensure that the projects are executed and completed within stipulated time frame. Quality plans given leads to Customer satisfaction.

MANUFACTURING FACILITIES



M/s Sai Services Are Authorised Dealers For This Product We Are Responsible To Provide After Sales & Service.

Understanding
Customer
Requirement

Customizing
Projects

Overall
Project Planning
& Management

Design &
Engineering

DELIVERY

QUALITY

SERVICE

Site Installation &
Commissioning

Managing
Logistics

Manufacturing

Procurement of
Material &
Services

- Minimizing Production time,
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*The Right Choice,
For The Best Quality....*



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