

# PROJECT REPORT

## Of

# MOTOR STARTER PANEL

## PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding **Motor Starter Panel**.

The objective of the pre-feasibility report is primarily to facilitate potential entrepreneurs in project identification for investment and in order to serve his objective; the document covers various aspects of the project concept development, start-up, marketing, finance and management.

[We can modify the project capacity and project cost as per your requirement. We can also prepare project report on any subject as per your requirement.]



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**PROJECT AT A GLANCE**

- 1 Name of the Entrepreneur : xxxxxxxx
- 2 Constitution (legal Status) : xxxxxxxx
- 3 Father / Spouse Name : xxxxxxxx
- 4 Unit Address : xxxxxxxxxxxxxxxxxxxxxxxx
- District : xxxxxx
- Pin: xxxxxxx State: xxxxxxxx
- Mobile xxxxxxx
- 5 Product and By Product : **MOTOR STARTER PANEL**
- 6 Name of the project / business activity proposed : **MOTOR STARTER PANEL UNIT**
- 7 Cost of Project : Rs.29.78 Lakhs
- 8 Means of Finance
- Term Loan Rs.19.8 Lakhs
- Own Capital Rs.2.98 Lakhs
- Working Capital Rs.7 Lakhs
- 9 Debt Service Coverage Ratio : 2.14
- 10 Pay Back Period : 5 Years
- 11 Project Implementation Period : 5-6 Months
- 12 Break Even Point : 28%
- 13 Employment : 8 Persons
- 14 Power Requirement : 30.00 HP
- 15 Major Raw materials : Cabinet, Control relay, Terminal, MCB, Indicators
- 16 Estimated Annual Sales Turnover (Max Capacity) : 210.91 Lakhs
- 17 Detailed Cost of Project & Means of Finance

**COST OF PROJECT**

(Rs. In Lakhs)

Particulars	Amount
	Own/Rented
Land	
Building / Shed 1000 Sq ft	5.00
Equipments & Tools	15.00
Furniture & Fixtures	2.00
Working Capital	7.78
<b>Total</b>	<b>29.78</b>

**MEANS OF FINANCE**

Particulars	Amount
Own Contribution	2.98
Working Capital(Finance)	7.00
Term Loan	19.80
<b>Total</b>	<b>29.78</b>

## **MOTOR STARTER PANEL**

**Introduction:** A Starter is a device that controls the use of electrical power to equipment, usually a motor. As the name implies, starters "start" motors. They can also stop them, reverse them, and protect them. Starters are made from two building blocks, Contactors and Overload Protection. Motor soft starter, is a device that is installed and incorporated with many industrial or commercial systems that aims to limit torque and power load. A starter turns an electric motor or motor controlled electrical equipment on or off, while providing overload protection. Starters represent another evolution in motor control applications. The two main types of starters are Manual Starters and AC Magnetic Motor Starters, commonly known as Motor Starters.



**Working of motor starter Panel:** Motor starters consist of two devices—a contactor that completes the circuit to the motor and an overload relay that monitors the current the motor is drawing. This overload protection device is set to a predetermined maximum load that the motor can safely handle. When a condition occurs that causes the motor to exceed the

maximum load, the device opens the motor starter control circuit and the motor is turned off.

**Motor Starter Panel Market analysis:** With rapid industrialization in urban and semi urban areas as well as in agriculture heavy use of pumping sets the demand of Electric Motors starters is increasing very fast. India electric motors market is projected to surpass \$ 2.08 billion by 2024. Anticipated growth in the market can be attributed to increasing number of industries and construction activities across the country, in addition to growing government focus towards adoption of energy efficient motors.

**Raw Material requirements:** Following raw material is required as the major raw material for the Motor starter Panel assembling process.

<b>S No.</b>	<b>Description</b>	<b>Amount</b>
1	Cabinet	Rs 800 per unit
2	Contractor	Rs 1000 per unit
3	Control Relay	Rs 800 per unit
4	Terminal	Rs 150 per unit
5	MCB	Rs 650 per unit
6	Indicators	Rs 50 per unit
7	Tools & dies	Rs 100 per unit

Average raw material cost per Motor starter panel is approx. Rs 3550

**Machinery Requirements:** Major machines and equipments are as follows:

<b>S No.</b>	<b>Name</b>	<b>Amount</b>
1.	Soldering Machine	250000
2.	Pick & Place Machine	800000
3.	Crimping Machine	200000

4.	Wire Cutting Machine	150000
5.	Testing equipments & Hand Tools	100000
	<b>Total Amount</b>	<b>1500000</b>

**Assembling process of motor starter Panel:** Process Flow:

- Making of Top & Bottom Cover
- Assembly of bought out components
- Wiring of Starter as per Circuit line diagram
- Fitting of Beading and Rubber knockouts etc.
- Pasting of Circuit line diagram & Name Plate
- Quality Control Testing & Inspection
- Packing & Dispatch of Product for Sales

**Area:** The industrial setup requires space for Inventory, workshop or manufacturing area, space for power supply utilities and auxiliary like Generator setup. Also some of the area of building is required for office staff facilities, documentation, office furniture, etc. Thus, the approximate total area required for complete industrial setup is 2000 to 2500Sqft. Civil work cost will be Rs 5 Lac (Approx.)

**Power Requirement:** The power consumption required to run all the machinery could be approximated as 30 Hp

**Manpower Requirement:** There are requirement of skilled machine operators to run the machine set. Experience quality engineers are required for desired quality control. Some helpers are also required to transfer the material from one work station to other. Office staffs are required to maintain the documentation. The approximate manpower required is 8 including 1

Supervisor, 1 Technical operator, 1 unskilled worker, 1 Helper & 1 Security Guard. 3 Skilled worker including Accountant, Manager and Sales person.

**Bank Term Loan:** Rate of Interest is assumed to be at 11%

**Depreciation:** Depreciation has been calculated as per the Provisions of Income Tax Act, 1961

### **Approvals & Registration Requirement:**

Basic registration required in this project:

- GST Registration
- Udyog Aadhar Registration (Optional)
- Choice of a Brand Name of the product and secure the name with Trademark if require.

### **Implementation Schedule:**

S No.	Activity	Time required
1.	Acquisition of premises	1-2 Months
2.	Procurement & installation of Plant & Machinery	1-2 Months
3.	Arrangement of Finance	1.5-2 Months
4.	Requirement of required Manpower	1 Month
5.	Commercial Trial Runs	1 Month
	Total time Required (some activities shall run concurrently)	5-6 Months

## **FINANCIALS**

<b>PROJECTED CASH FLOW STATEMENT</b>					
<b>PARTICULARS</b>	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>V</b>
<b>SOURCES OF FUND</b>					
Own Contribution	2.98	-			
Reserve & Surplus	4.29	7.01	8.65	10.57	13.70
Depriciation & Exp. W/off	2.95	2.54	2.19	1.89	1.63
Increase In Cash Credit	7.00				
Increase In Term Loan	19.80	-	-	-	-
Increase in Creditors	5.10	0.72	0.74	0.76	0.78
<b>TOTAL :</b>	<b>42.12</b>	<b>10.27</b>	<b>11.58</b>	<b>13.22</b>	<b>16.12</b>
<b>APPLICATION OF FUND</b>					
Increase in Fixed Assets	22.00	-	-	-	-
Increase in Stock	8.93	0.69	1.03	1.05	1.08
Increase in Debtors	4.35	0.75	0.63	0.64	0.66
Repayment of Term Loan	2.20	4.40	4.40	4.40	4.40
Taxation	-	0.70	0.86	1.59	2.74
Drawings	4.00	4.50	4.60	5.00	7.00
<b>TOTAL :</b>	<b>41.48</b>	<b>9.66</b>	<b>11.53</b>	<b>12.68</b>	<b>15.87</b>
Opening Cash & Bank Balance	-	0.64	1.26	1.31	1.85
Add : Surplus	0.64	0.62	0.05	0.54	0.24
Closing Cash & Bank Balance	<b>0.64</b>	<b>1.26</b>	<b>1.31</b>	<b>1.85</b>	<b>2.09</b>

<b>PROJECTED BALANCE SHEET</b>					
<b>PARTICULARS</b>	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>V</b>
<b>SOURCES OF FUND</b>					
<b>Capital Account</b>					
Opening Balance	-	3.27	5.08	8.26	12.24
Add: Additions	2.98	-	-	-	-
Add: Net Profit	4.29	6.31	7.78	8.98	10.96
Less: Drawings	4.00	4.50	4.60	5.00	7.00
<b>Closing Balance</b>	<b>3.27</b>	<b>5.08</b>	<b>8.26</b>	<b>12.24</b>	<b>16.20</b>
CC Limit	7.00	7.00	7.00	7.00	7.00
Term Loan	17.60	13.20	8.80	4.40	-
Sundry Creditors	5.10	5.82	6.56	7.32	8.10
<b>TOTAL :</b>	<b>32.97</b>	<b>31.10</b>	<b>30.62</b>	<b>30.96</b>	<b>31.30</b>
<b>APPLICATION OF FUND</b>					
<b>Fixed Assets ( Gross)</b>	22.00	22.00	22.00	22.00	22.00
Gross Dep.	2.95	5.49	7.69	9.58	11.21
Net Fixed Assets	19.05	16.51	14.31	12.42	10.79
<b>Current Assets</b>					
Sundry Debtors	4.35	5.10	5.73	6.37	7.03
Stock in Hand	8.93	8.23	9.26	10.32	11.39
Cash and Bank	0.64	1.26	1.31	1.85	2.09
<b>TOTAL :</b>	<b>32.97</b>	<b>31.10</b>	<b>30.62</b>	<b>30.96</b>	<b>31.30</b>



<b>PROJECTED PROFITABILITY STATEMENT</b>					
PARTICULARS	I	II	III	IV	V
<b>A) SALES</b>					
Gross Sale	130.50	152.99	171.93	191.23	210.91
<b>Total (A)</b>	<b>130.50</b>	<b>152.99</b>	<b>171.93</b>	<b>191.23</b>	<b>210.91</b>
<b>B) COST OF SALES</b>					
Raw Material Consumed	102.00	116.44	131.25	146.44	162.00
Electricity Expenses	1.83	2.05	2.28	2.51	2.74
Repair & Maintenance	3.92	4.59	5.16	5.74	6.33
Labour & Wages	9.45	9.83	10.81	11.57	12.38
Depreciation	2.95	2.54	2.19	1.89	1.63
<b>Cost of Production</b>	<b>120.14</b>	<b>135.45</b>	<b>151.69</b>	<b>168.15</b>	<b>185.08</b>
<b>Add: Opening Stock /WIP</b>	<b>-</b>	<b>3.83</b>	<b>4.35</b>	<b>4.89</b>	<b>5.43</b>
<b>Less: Closing Stock /WIP</b>	<b>3.83</b>	<b>4.35</b>	<b>4.89</b>	<b>5.43</b>	<b>5.99</b>
Cost of Sales (B)	116.32	134.93	151.16	167.60	184.52
<b>C) GROSS PROFIT (A-B)</b>	<b>14.18</b>	<b>18.07</b>	<b>20.77</b>	<b>23.63</b>	<b>26.39</b>
	<b>10.87%</b>	<b>11.81%</b>	<b>12.08%</b>	<b>12.36%</b>	<b>12.51%</b>
D) Bank Interest (Term Loan )	2.15	1.75	1.27	0.79	0.30
ii) Interest On Working Capital	0.77	0.77	0.77	0.77	0.77
E) Salary to Staff	5.67	6.24	6.99	7.68	8.45
F) Selling & Adm Expenses Exp.	1.31	2.29	3.09	3.82	3.16
<b>TOTAL (D+E)</b>	<b>9.89</b>	<b>11.06</b>	<b>12.12</b>	<b>13.07</b>	<b>12.69</b>
<b>H) NET PROFIT</b>	<b>4.29</b>	<b>7.01</b>	<b>8.65</b>	<b>10.57</b>	<b>13.70</b>
	<b>3.3%</b>	<b>4.6%</b>	<b>5.0%</b>	<b>5.5%</b>	<b>6.5%</b>
I) Taxation	-	0.70	0.86	1.59	2.74
<b>J) PROFIT (After Tax)</b>	<b>4.29</b>	<b>6.31</b>	<b>7.78</b>	<b>8.98</b>	<b>10.96</b>

COMPUTATION OF MAKING OF MOTOR STARTER PANEL			
<b>Item to be Manufactured Motor starter panel</b>			
Manufacturing Capacity per day		25	Pcs
No. of Working Hour		8	
No of Working Days per month		25	
No. of Working Day per annum		300	
Total Production per Annum		7,500	Pcs
Total Production per Annum		7,500	Pcs
Year		Capacity	MOTOR STARTER
		Utilisation	
I		40%	3,000.00
II		45%	3,375.00
III		50%	3,750.00
IV		55%	4,125.00
V		60%	4,500.00

Raw Material Consumed	Capacity	Rate	Amount (Rs.)
	Utilisation		
I	40%	3400.00	102.00
II	45%	3450.00	116.44
III	50%	3500.00	131.25
IV	55%	3550.00	146.44
V	60%	3600.00	162.00

<b>COMPUTATION OF SALE</b>					
Particulars	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>V</b>
Op Stock	-	100.00	112.50	125.00	137.50
Production	3,000.00	3,375.00	3,750.00	4,125.00	4,500.00
	3,000.00	3,475.00	3,862.50	4,250.00	4,637.50
Less : Closing Stock(10 Days)	100.00	112.50	125.00	137.50	150.00
Net Sale	2,900.00	3,362.50	3,737.50	4,112.50	4,487.50
Sale Price per Pc	4,500.00	4,550.00	4,600.00	4,650.00	4,700.00
<b>Sale (in Lacs)</b>	<b>130.50</b>	<b>152.99</b>	<b>171.93</b>	<b>191.23</b>	<b>210.91</b>

<b>COMPUTATION OF CLOSING STOCK &amp; WORKING CAPITAL</b>					
<b>PARTICULARS</b>	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>V</b>
<b>Finished Goods</b>					
(10 Days requirement)	3.83	4.35	4.89	5.43	5.99
<b>Raw Material</b>					
(15 Days requirement)	5.10	3.88	4.38	4.88	5.40
<b>Closing Stock</b>	<b>8.93</b>	<b>8.23</b>	<b>9.26</b>	<b>10.32</b>	<b>11.39</b>

<b>COMPUTATION OF WORKING CAPITAL REQUIREMENT</b>			
<b>Particulars</b>	<b>Amount</b>	<b>Margin(10%)</b>	<b>Net Amount</b>
Stock in Hand	8.93		
Less:			
Sundry Creditors	5.10		
<b>Paid Stock</b>	<b>3.83</b>	<b>0.38</b>	<b>3.44</b>
Sundry Debtors	4.35	0.44	3.92
<b>Working Capital Requirement</b>			<b>7.36</b>
<b>Margin</b>			0.82
<b>MPBF</b>			<b>7.36</b>
<b>Working Capital Demand</b>			<b>7.00</b>

<b>BREAK UP OF LABOUR</b>				
Particulars	Wages Per Month	No of Employees	Total Salary	
Supervisor	25,000.00	1	25,000.00	
Technical Operator	20,000.00	1	20,000.00	
Unskilled Worker	12,000.00	1	12,000.00	
Helper	10,000.00	1	10,000.00	
Security Guard	8,000.00	1	8,000.00	
			75,000.00	
Add: 5% Fringe Benefit			3,750.00	
Total Labour Cost Per Month			78,750.00	
Total Labour Cost for the year ( In Rs. Lakhs)		5	9.45	

<b>BREAK UP OF SALARY</b>				
Particulars	Salary Per Month	No of Employees	Total Salary	
Manager	18,000.00	1	18,000.00	
Accountant cum store keeper	15,000.00	1	15,000.00	
Sales	12,000.00	1	12,000.00	
Total Salary Per Month			45,000.00	
Add: 5% Fringe Benefit			2,250.00	
Total Salary for the month			47,250.00	
Total Salary for the year ( In Rs. Lakhs)		3	5.67	

<b>COMPUTATION OF DEPRECIATION</b>					
Description	Land	Building/shed	Equipments & Tools	Furniture	TOTAL
Rate of Depreciation		<b>10.00%</b>	<b>15.00%</b>	<b>10.00%</b>	
<b>Opening Balance</b>	Leased		-	-	-
Addition	-	5.00	15.00	2.00	22.00
	-	5.00	15.00	2.00	22.00
		-	-	-	
TOTAL		5.00	15.00	2.00	22.00
Less : Depreciation	-	0.50	2.25	0.20	2.95
WDV at end of Ist year	-	4.50	12.75	1.80	19.05
Additions During The Year	-	-	-	-	-
	-	4.50	12.75	1.80	19.05
Less : Depreciation	-	0.45	1.91	0.18	2.54
WDV at end of IIInd Year	-	4.05	10.84	1.62	16.51
Additions During The Year	-	-	-	-	-
	-	4.05	10.84	1.62	16.51
Less : Depreciation	-	0.41	1.63	0.16	2.19
WDV at end of IIIrd year	-	3.65	9.21	1.46	14.31
Additions During The Year	-	-	-	-	-
	-	3.65	9.21	1.46	14.31
Less : Depreciation	-	0.36	1.38	0.15	1.89
WDV at end of IV year	-	3.28	7.83	1.31	12.42
Additions During The Year	-	-	-	-	-
	-	3.28	7.83	1.31	12.42
Less : Depreciation	-	0.33	1.17	0.13	1.63
WDV at end of Vth year	-	2.95	6.66	1.18	10.79

<u>REPAYMENT SCHEDULE OF TERM LOAN</u>						11.0%	
Year	Particulars	Amount	Addition	Total	Interest	Repayment	CI Balance
<b>I</b>	Opening Balance						
	Ist Quarter	-	19.80	19.80	0.54	-	19.80
	Iind Quarter	19.80	-	19.80	0.54	-	19.80
	IIIrd Quarter	19.80	-	19.80	0.54	1.10	18.70
	Ivth Quarter	18.70	-	18.70	0.51	1.10	17.60
					2.15	2.20	
<b>II</b>	Opening Balance						
	Ist Quarter	17.60	-	17.60	0.48	1.10	16.50
	Iind Quarter	16.50	-	16.50	0.45	1.10	15.40
	IIIrd Quarter	15.40	-	15.40	0.42	1.10	14.30
	Ivth Quarter	14.30		14.30	0.39	1.10	13.20
					1.75	4.40	
<b>III</b>	Opening Balance						
	Ist Quarter	13.20	-	13.20	0.36	1.10	12.10
	Iind Quarter	12.10	-	12.10	0.33	1.10	11.00
	IIIrd Quarter	11.00	-	11.00	0.30	1.10	9.90
	Ivth Quarter	9.90		9.90	0.27	1.10	8.80
					1.27	4.40	
<b>IV</b>	Opening Balance						
	Ist Quarter	8.80	-	8.80	0.24	1.10	7.70
	Iind Quarter	7.70	-	7.70	0.21	1.10	6.60
	IIIrd Quarter	6.60	-	6.60	0.18	1.10	5.50
	Ivth Quarter	5.50		5.50	0.15	1.10	4.40
					0.79	4.40	
<b>V</b>	Opening Balance						
	Ist Quarter	4.40	-	4.40	0.12	1.10	3.30
	Iind Quarter	3.30	-	3.30	0.09	1.10	2.20
	IIIrd Quarter	2.20	-	2.20	0.06	1.10	1.10
	Ivth Quarter	1.10		1.10	0.03	1.10	-
					0.30	4.40	

Door to Door Period            60 Months  
Moratorium Period                6 Months  
Repayment Period                 54 Months

<b>CALCULATION OF D.S.C.R</b>					
<b>PARTICULARS</b>	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>V</b>
<b><u>CASH ACCRUALS</u></b>	7.24	8.85	9.97	10.87	12.60
Interest on Term Loan	2.15	1.75	1.27	0.79	0.30
Total	9.39	10.61	11.24	11.66	12.90
<b><u>REPAYMENT</u></b>					
Repayment of Term Loan	2.20	4.40	4.40	4.40	4.40
Interest on Term Loan	2.15	1.75	1.27	0.79	0.30
Total	4.35	6.15	5.67	5.19	4.70
<b>DEBT SERVICE COVERAGE RATIO</b>	<b>2.16</b>	<b>1.72</b>	<b>1.98</b>	<b>2.25</b>	<b>2.74</b>
<b>AVERAGE D.S.C.R.</b>			<b>2.14</b>		



<b>COMPUTATION OF ELECTRICITY</b>				
<b>(A) POWER CONNECTION</b>				
Total Working Hour per day		Hours	8	
Electric Load Required		HP	30	
Load Factor			0.7460	
Electricity Charges		per unit	7.50	
Total Working Days			300	
<b>Electricity Charges</b>				4,02,840.00
Add : Minimum Charges (@ 10%)				
<b>(B) DG set</b>				
No. of Working Days			300	days
No of Working Hours			0.3	Hour per day
Total no of Hour			90	
Diesel Consumption per Hour			8	
Total Consumption of Diesel			720	
Cost of Diesel			65.00	Rs. /Ltr
Total cost of Diesel			0.47	
Add : Lube Cost @15%			0.07	
Total			<b>0.54</b>	
Total cost of Power & Fuel at 100%				4.57
<b>Year</b>		<b>Capacity</b>		<b>Amount</b>
				<b>(in Lacs)</b>
I		40%		1.83
II		45%		2.05
III		50%		2.28
IV		55%		2.51
V		60%		2.74

## **DISCLAIMER**

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