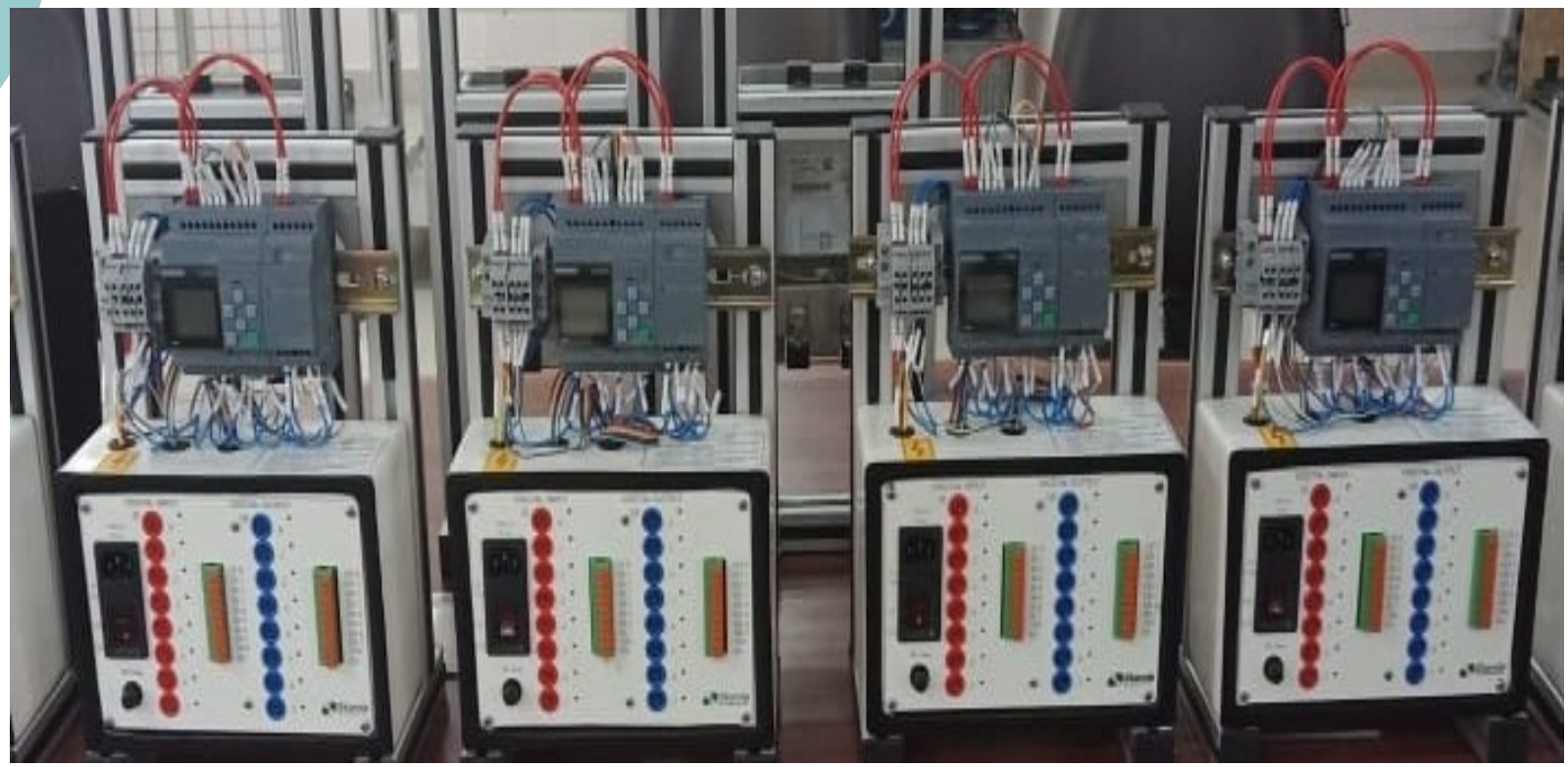
Skanda Mfg Systems Pvt Ltd
One stop Solution for training

Skanda mfg Education Products-PLC

- Siemens LOGO PLC trainer with 8DI/DO,2AI/AO
-



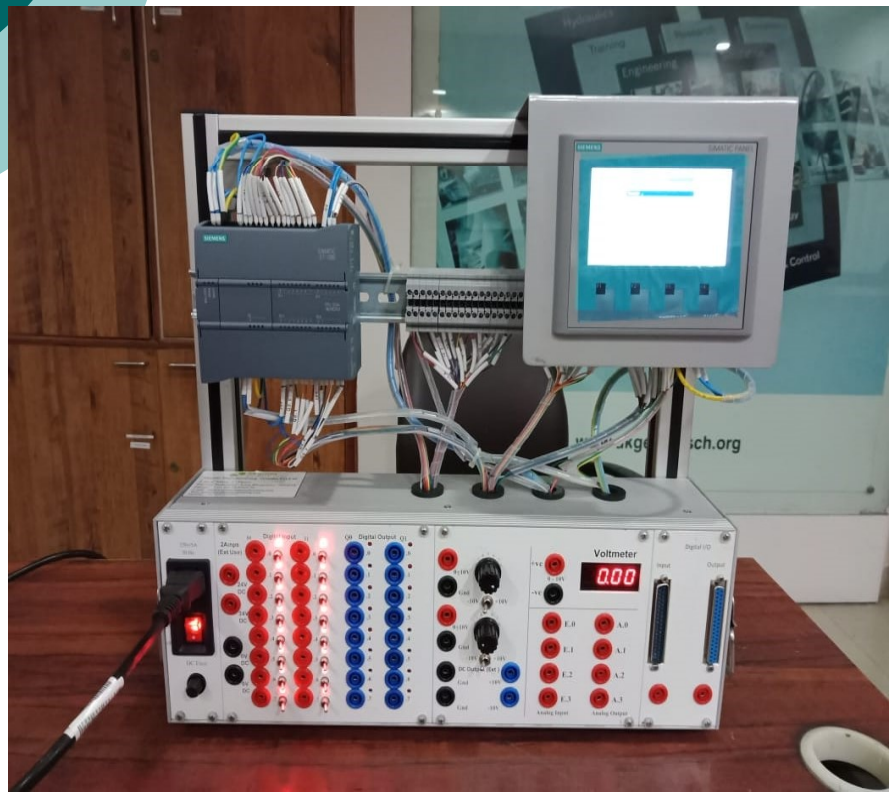
Order Code: LODIO882AIO

Skanda Mfg Systems Pvt Ltd
One stop Solution for training

Skanda mfg Education Products-PLC

- Siemens S7-1200 PLC trainer with:

16DI/DO/2AI/AO



Order code:SMS1200DIO16162AIO

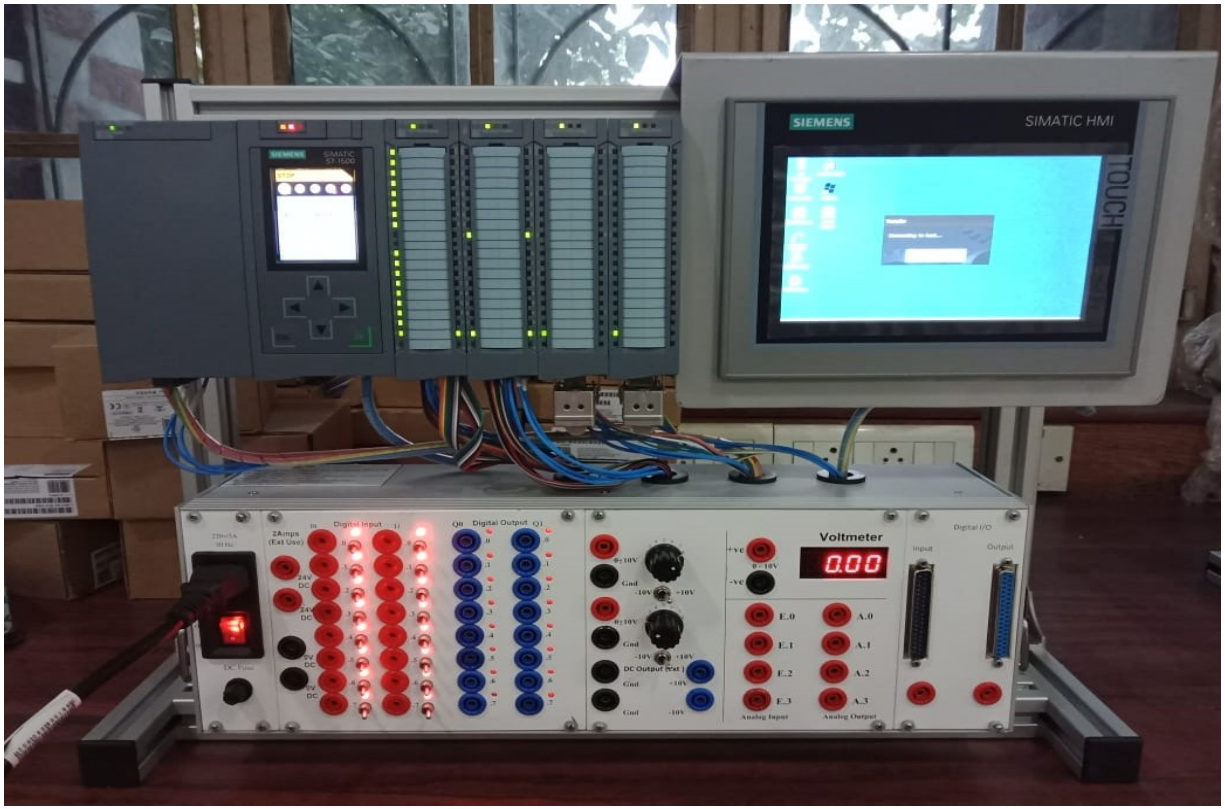
8DI/DO/2AI/AO

Order code: SMS1200DIO882AIO

Skanda Mfg Systems Pvt Ltd
One stop Solution for training

Skanda mfg Education Products-PLC

- Siemens S7-1500 PLC trainer with 16DI/DO/2AI/AO



Order code:SMS1500DIO16162AIO

Skanda Mfg Systems Pvt Ltd
One stop Solution for training

Skanda mfg Education Products-PLC

- Mitsubishi FX / Q PLC with :
  8DI/DO, 16DI/DO and 2AI/AO

Order code:SMSFXDIO882AIO
Order code: SMSFXDIO16162AI
Order code: SMSQDIO882AIO
Order code: SMSQDIO16162AIO

Skanda Mfg Systems Pvt Ltd
One stop Solution for training

Skanda mfg Education Products-PLC

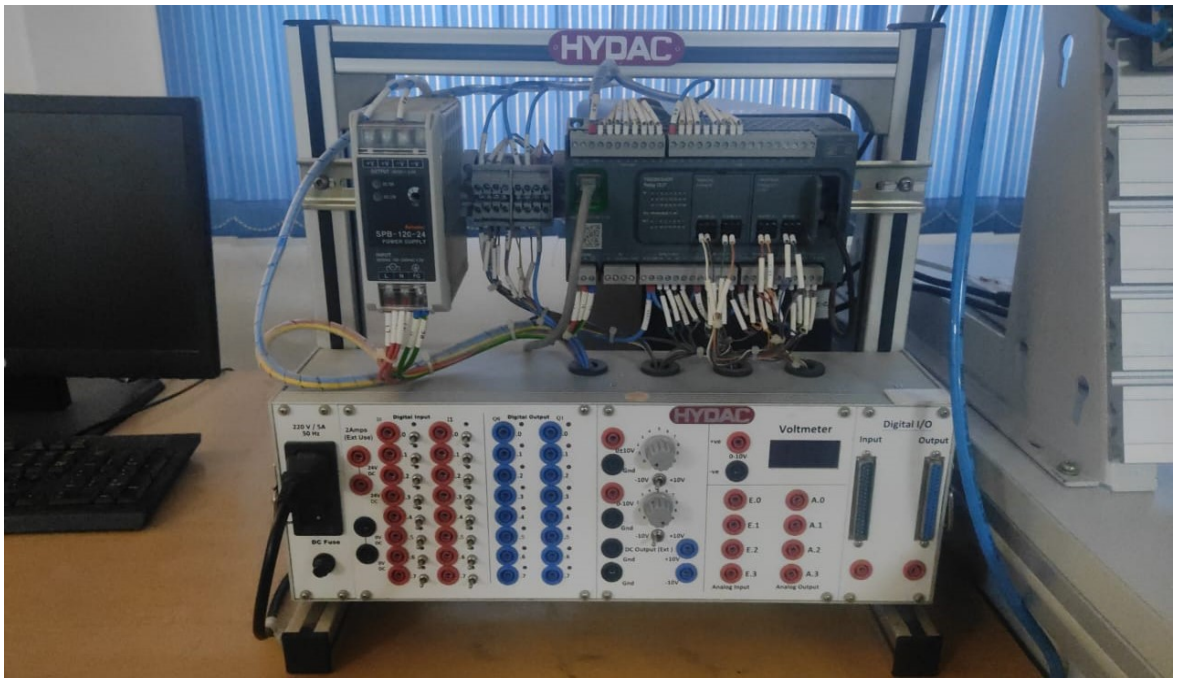
- Delta DVP 14SS2/12SA PLC trainer with 8DI/DO or 16DI/DO and 2AI/AO

Order code:SMSDELDIO882AIO
Order code: SMSDELDIO16162AI

Skanda Mfg Systems Pvt Ltd
One stop Solution for training

Skanda mfg Education Products-PLC

- SCHNEIDER TM200 PLC Trainer with 8DI/DO or 16DI/DO and 2AI/AO

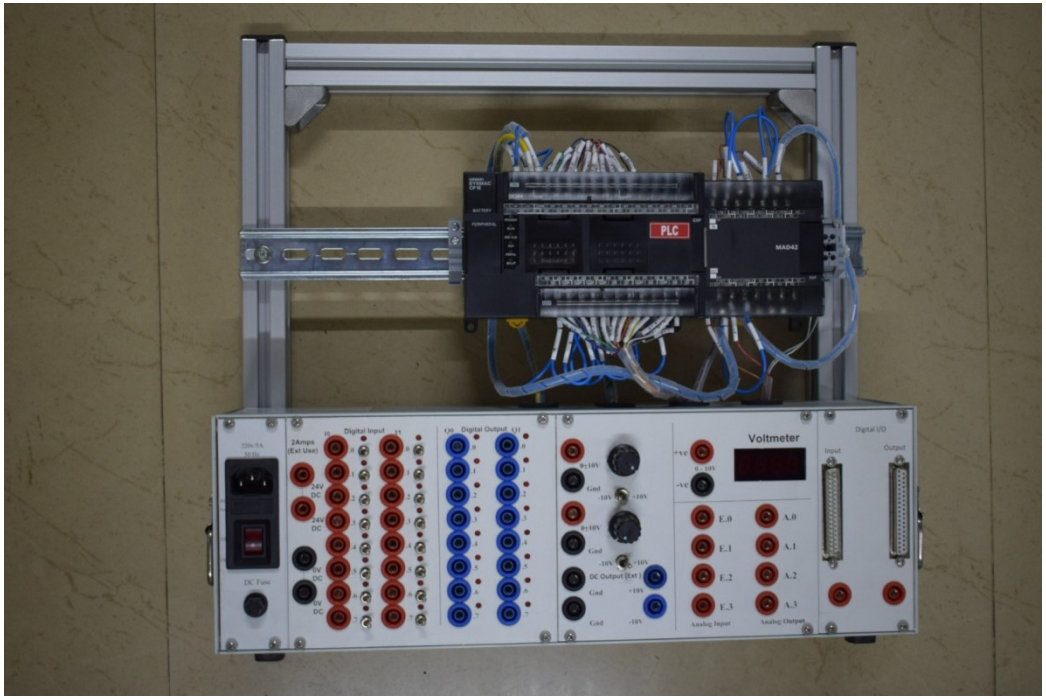


Order code:SMSTMDIO882AIO
Order code: SMSTMDIO16162AI

Skanda Mfg Systems Pvt Ltd
One stop Solution for training

Skanda mfg Education Products-PLC

- OMRON CP1E/1H PLC Trainer with 8DI/DO or 16DI/DO and 2AI/AO.

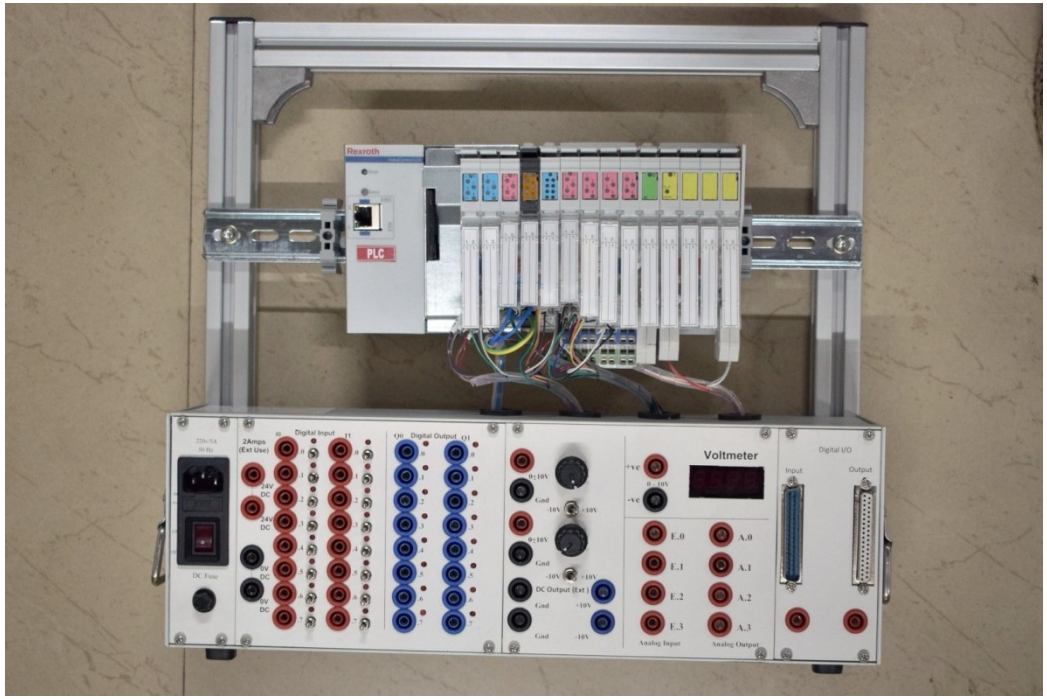


Order code:SMSOMDIO882AIO
Order code: SMSOMDIO16162AI

Skanda Mfg Systems Pvt Ltd
One stop Solution for training

Skanda mfg Education Products-PLC

- REXROTH PLC Trainer with 8DI/DO or 16DI/DO and 2AI/AO.

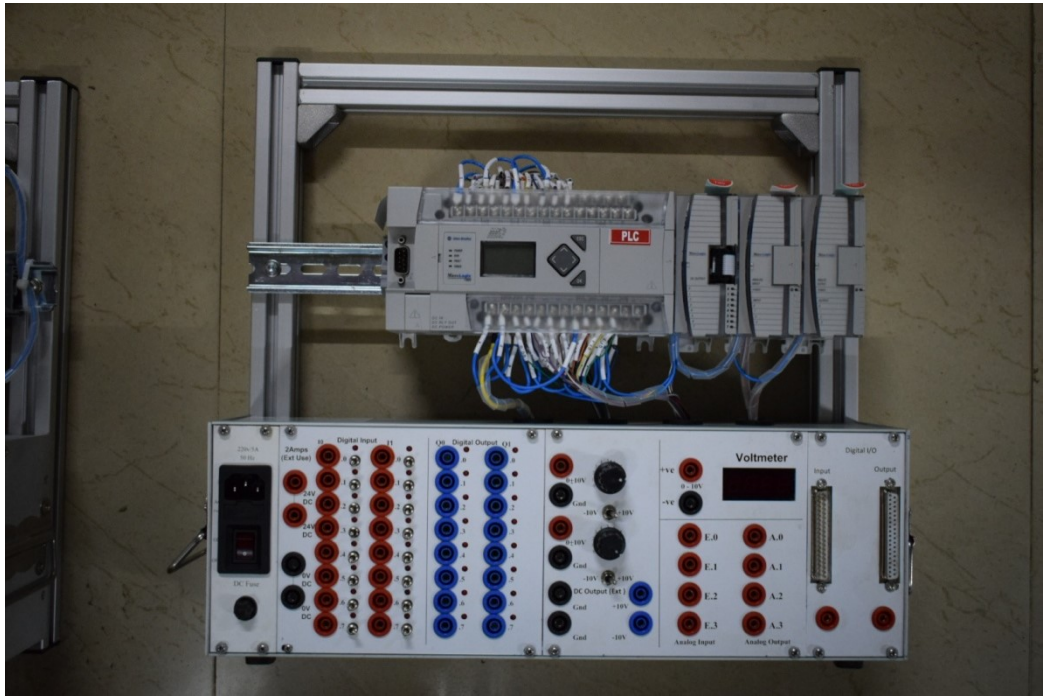


Order code:SMSBHDIO882AIO
Order code: SMSBHDIO16162AI

Skanda Mfg Systems Pvt Ltd
One stop Solution for training

Skanda mfg Education Products-PLC

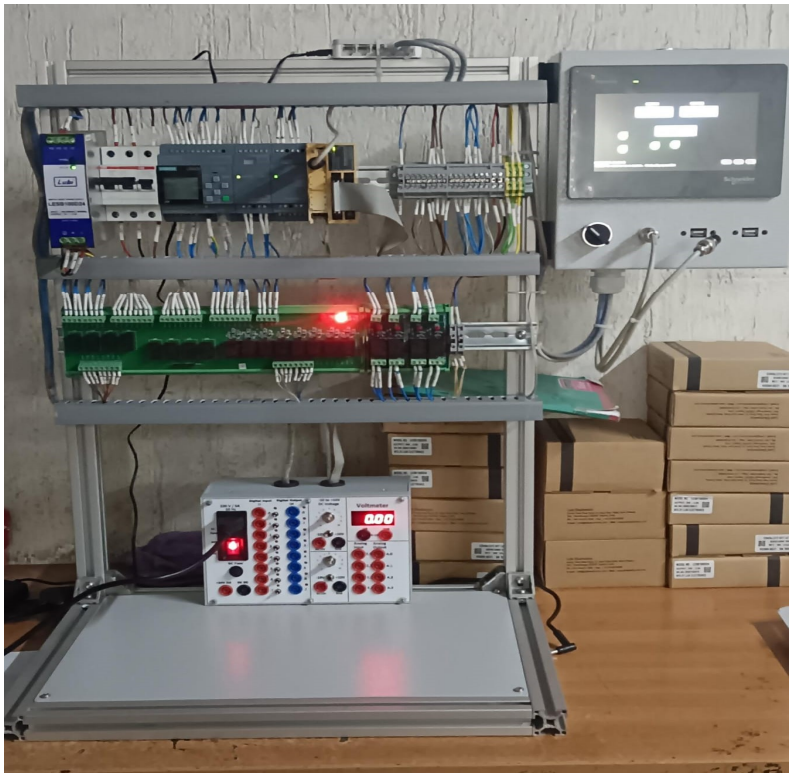
- AB PLC Trainer with 8DI/DO or 16DI/DO and 2AI/AO.



Order code:SMSABDIO882AIO
Order code: SMSABDIO16162AI

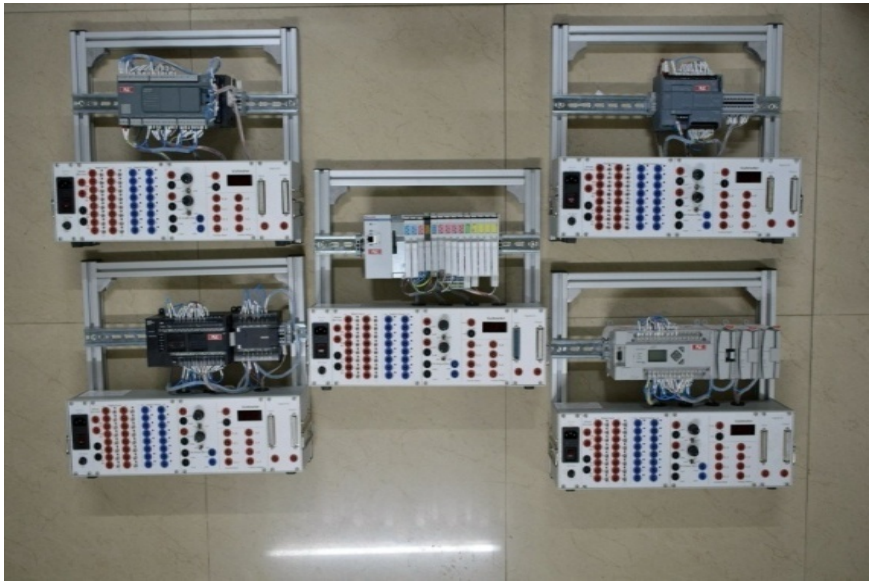
- **Skanda mfg Education Products-PLC**

- Multi PLC trainer with any combination.



Order code:SMSMUL-------8DIO2AIO
Order code:SMSMUL-------16DIO2AIO
---- TYPE THE PLC COMBINATION

- **Skanda mfg Education Products-PLC GENERAL INFORMATION**
- Communication Cable B/W and PLC
- Software for different PLC
- Train the trainer for 1 days on each PLC.



Skanda mfg Education Products- Drive

Siemens /Delta /Omron /Rexroth/any other make

SIEMENS V90/PLC 1500

REXROTH MLD SERVO

UNIVERSAL SERVO

- **Skanda mfg Education Products-CNC**

SIEMENS 828D H/V Trainer with 16DI/DO Turning / milling twin technology.

Order code:SMS828DH16DIDOTM

- **Skanda mfg Education Products-CNC**

SIEMENS Sinumerik ONE Trainer with 16DI/DO,Turning / milling twin technology

Order code:SMSSONE16DIDOTM

- **Skanda mfg Education Products-CNC**

SIEMENS 828D/SONE SERVO Trainer with 16DI/DO Turning / milling twin technology.

Order code:SMSSERVO16DIDOTM

Skanda mfg Education Products-CNC

SIEMENS 828D/SONE SERVO Trainer with 16DI/DO -Milling technology.

Order code:SMSSERVO16DIDOMS

Skanda mfg Education Products-CNC

SIEMENS 828D/SONE SERVO Trainer with 16DI/DO - Turning technology

Order code:SMSSERVO16DIDOTS

- **<u>Skanda mfg Education Products-CNC</u>**

  SIEMENS Training Software:

  Run my virtual machine (RMVM) – Operate PC based software for turning/milling.
- Run my virtual machine (RMVM) – 3D PC based software for turning / milling.

Skanda mfg Education Products-CNC

FANUC Simulator with 16DI/DO - Turning/Milling technology

Order code:SMSFANUC16DIDOTM

Skanda mfg Education Products-CNC

FANUC OiMF SERVO Trainer with 16DI/DO -Milling technology.

Order code:SMSSERVO16DIDOMF

Skanda mfg Education Products-CNC

FANUC OiTF SERVO Trainer with 16DI/DO - Turning technology.

Order code:SMSSERVO16DIDOTF

Skanda mfg Education Products-CNC

FANUC OiMF SERVO Trainer with 16DI/DO -Milling and Turning technology.

Order code:SMSSERVO8DIDOMF

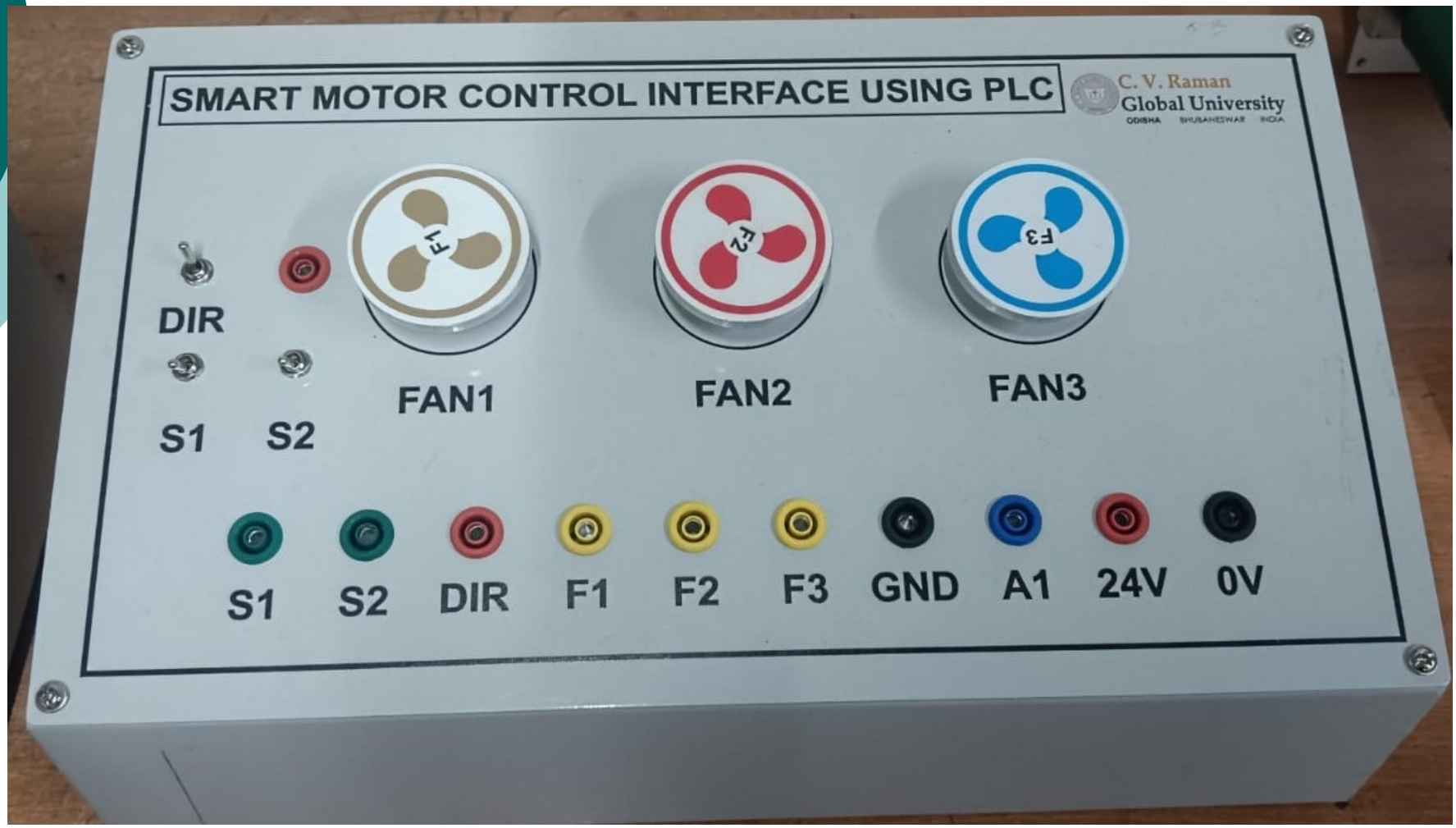
Order code:SMSSERVO8DIDOTF

- **<u>Skanda mfg Education Products-CNC</u>**

FANUC CNC Training Software.

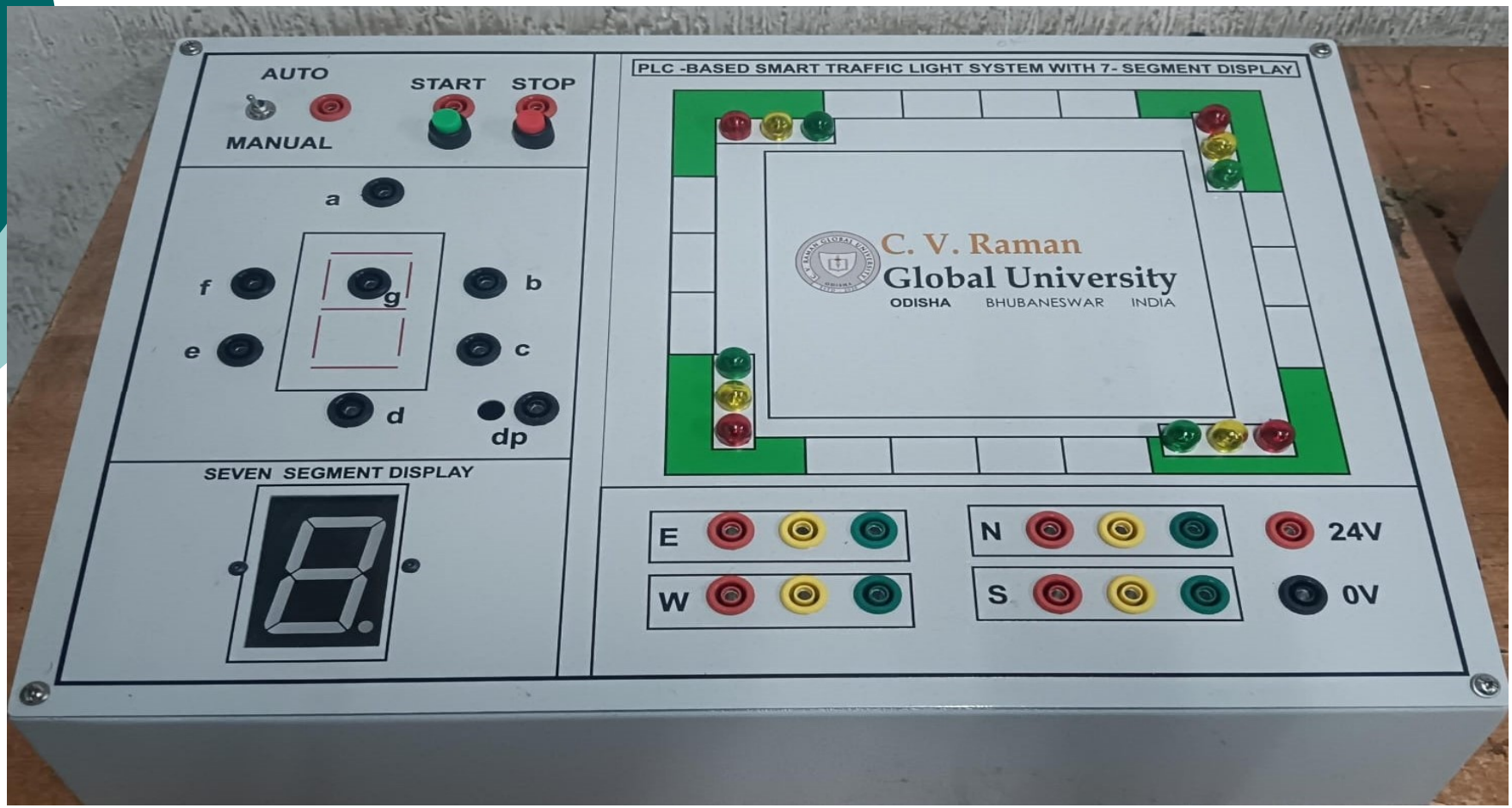
CNC Guide Turning / Milling.

Skanda mfg Education Products
PLC Application Kits- Motor Control



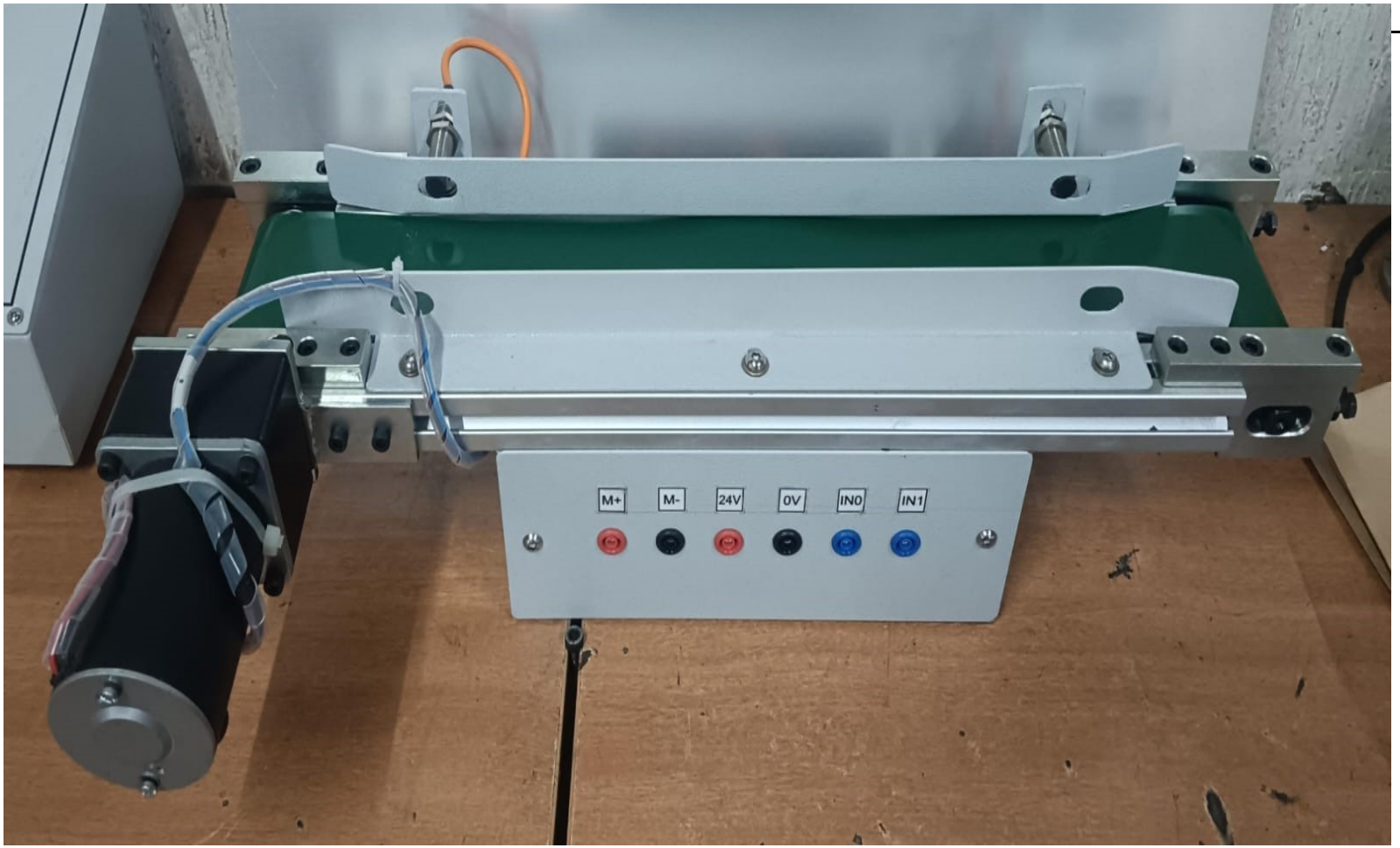
Order code:SMSMOTORCTR03

Skanda mfg Education Products
PLC Application Kits-Trafic control



Order code:SMSTRAFICCTR04

Skanda mfg Education Products
PLC Application Kits-Conveyor control



Order code:SMSCONVCTRDC01

Skanda mfg Education Products
PLC Application Kits- LIFT Control

Order code:SMSCONVCTRDC01

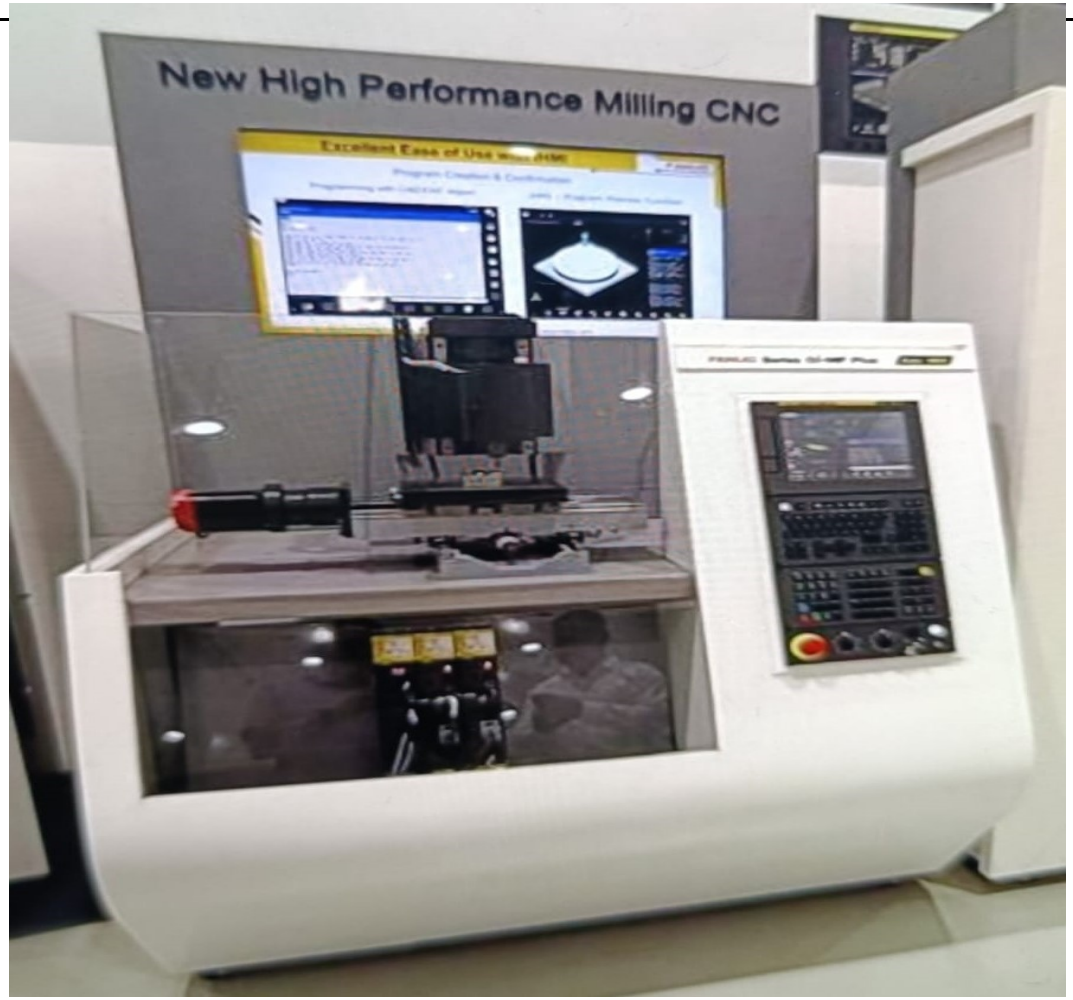
Skanda mfg Education Products Electrical Hardware training Kit

Order code:SMSELHWTRG01

Skanda mfg Education Products
Electrical Hardware training Kit

Order code:SMSELHWTRG02

Skanda mfg Education Products
Milling machine trainer



Order code:SMSMILLINGTRG01

Skanda mfg Education Products
Milling machine trainer

Order code:SMSMILLINGTRG02

Skanda mfg Education Products
Milling machine trainer

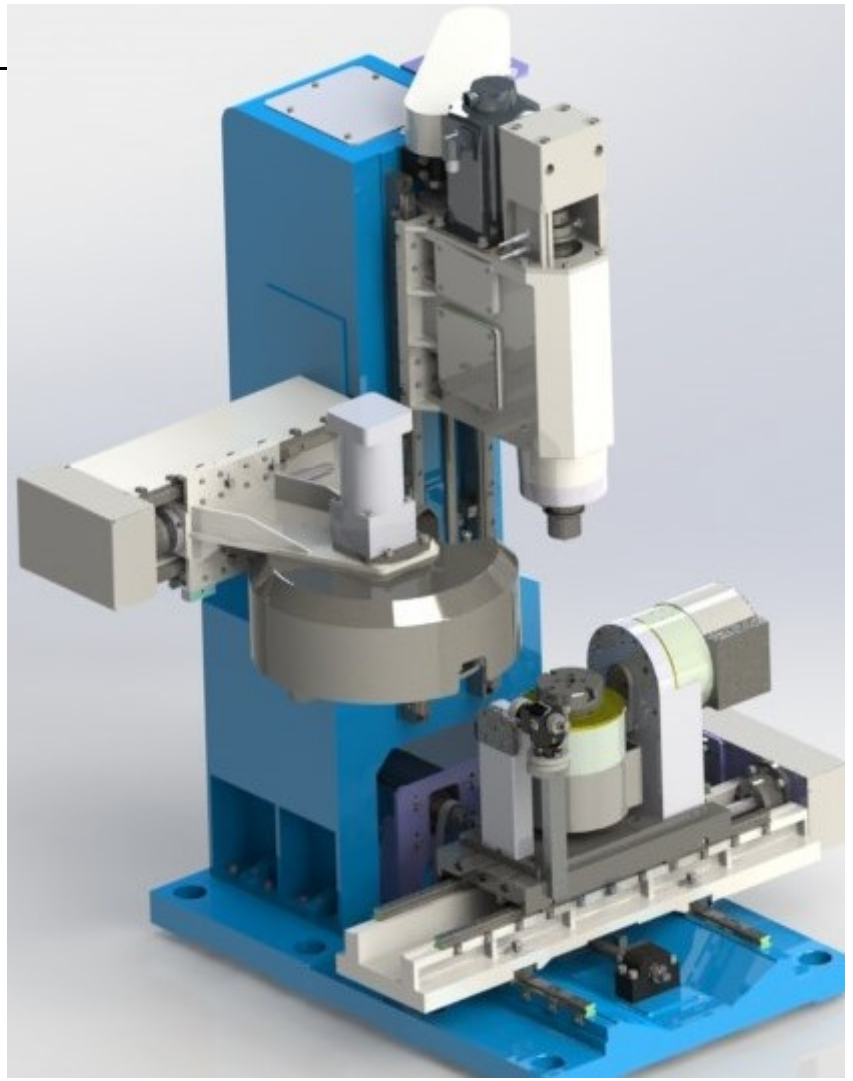
Order code:SMSMILLINGTRG03

Skanda mfg Education Products
Milling machine trainer

Order code:SMSMILLINGTRG04

Skanda mfg Education Products

5 Axis Milling machine trainer



Order code:SMS5AXISMILLINGTRG01

Skanda mfg Education Products
Turning machine trainer

Order code:SMSTURNINGTRG01

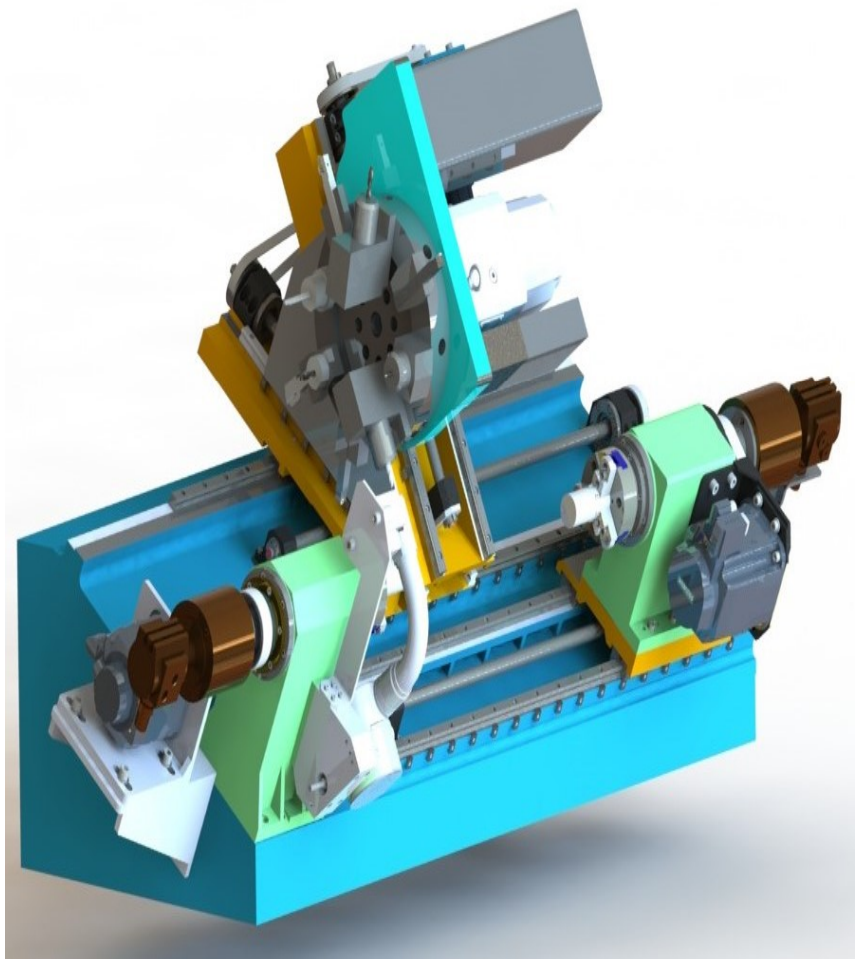
Skanda mfg Education Products
Turning machine trainer

Order code:SMSTURNINGTRG02

Skanda mfg Education Products
Turning machine trainer

Order code:SMSTURNINGTRG03

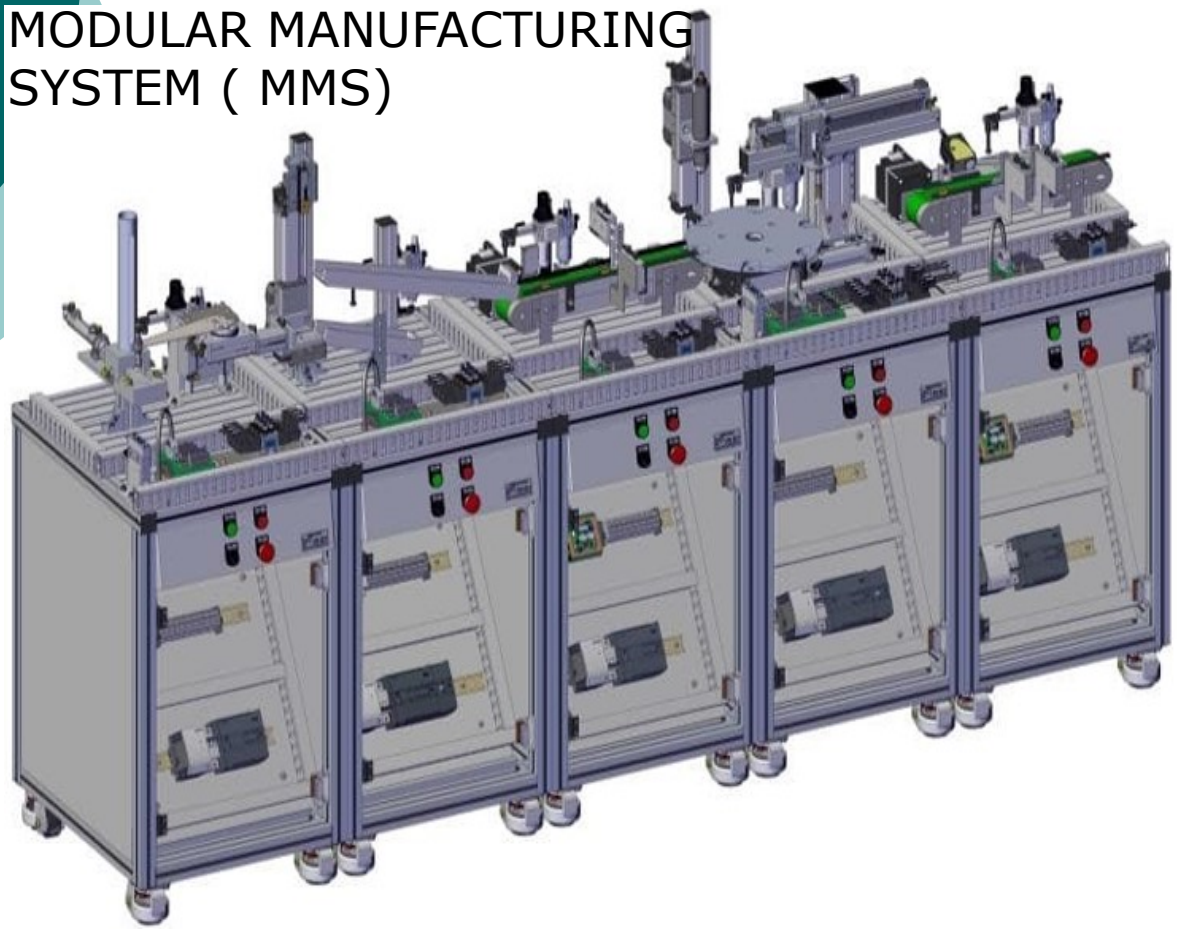
Skanda mfg Education Products
Turn/Mill machine trainer



Order code:SMSTURNMILLTRG01

Skanda mfg Education Products
Automation Trainer-MMS

MODULAR MANUFACTURING SYSTEM (MMS)



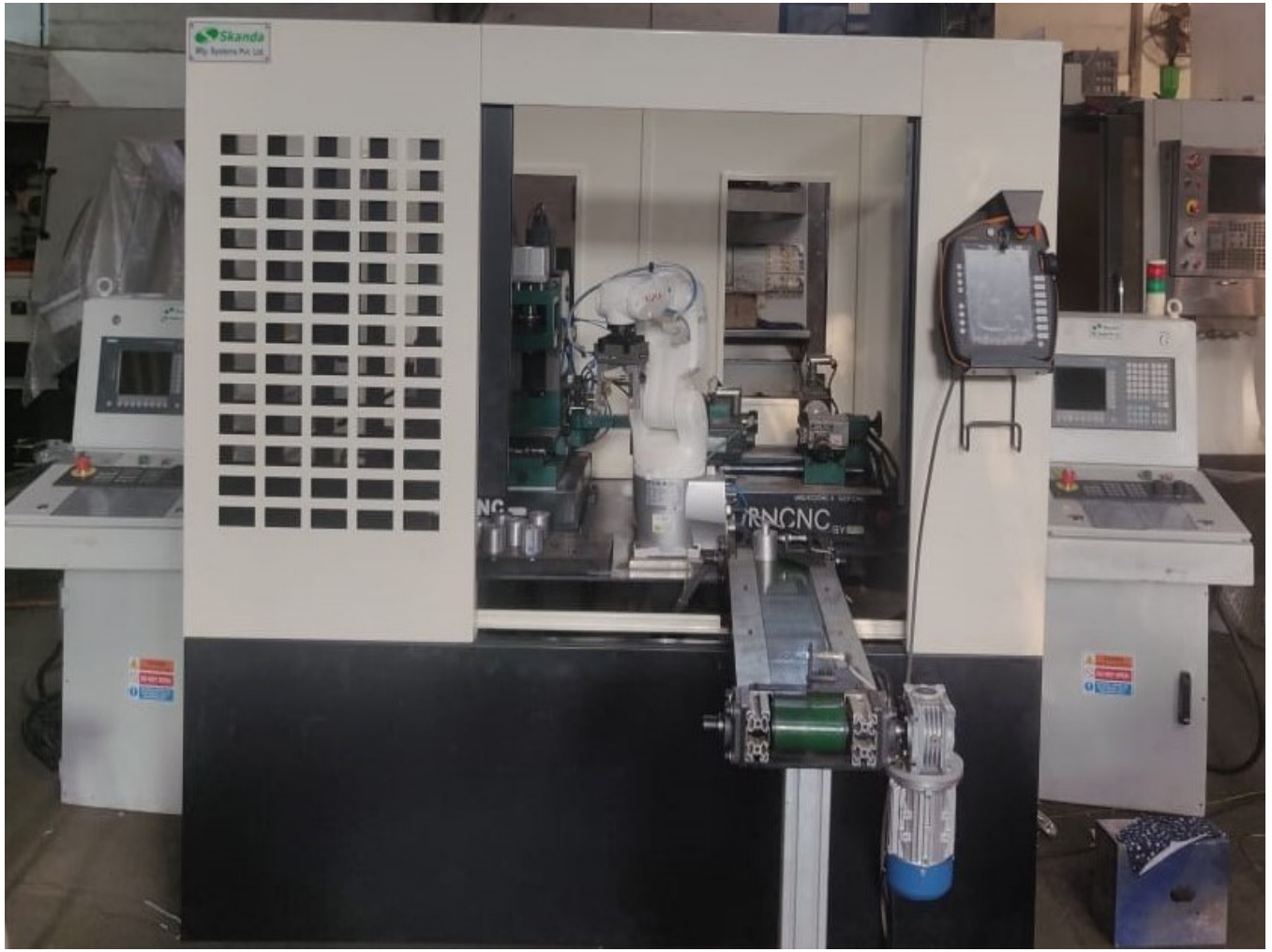
PACKAGE INCLUDES :

1. Feeder Station - 1 nos
2. Inspection Station - 1 n
3. Buffer Station – 1 nos.
4. Process Station - 1 nos
5. Sorting Station – 1 nos
6. PLC Software & Accessories – 1set
7. Compressor – 2 nos
8. Technical Documents - 1 set
9. Work Piece set -1 set
10. DIY Tool Kit ------ -- 1 Set

Order code:SMSMMSTRG01

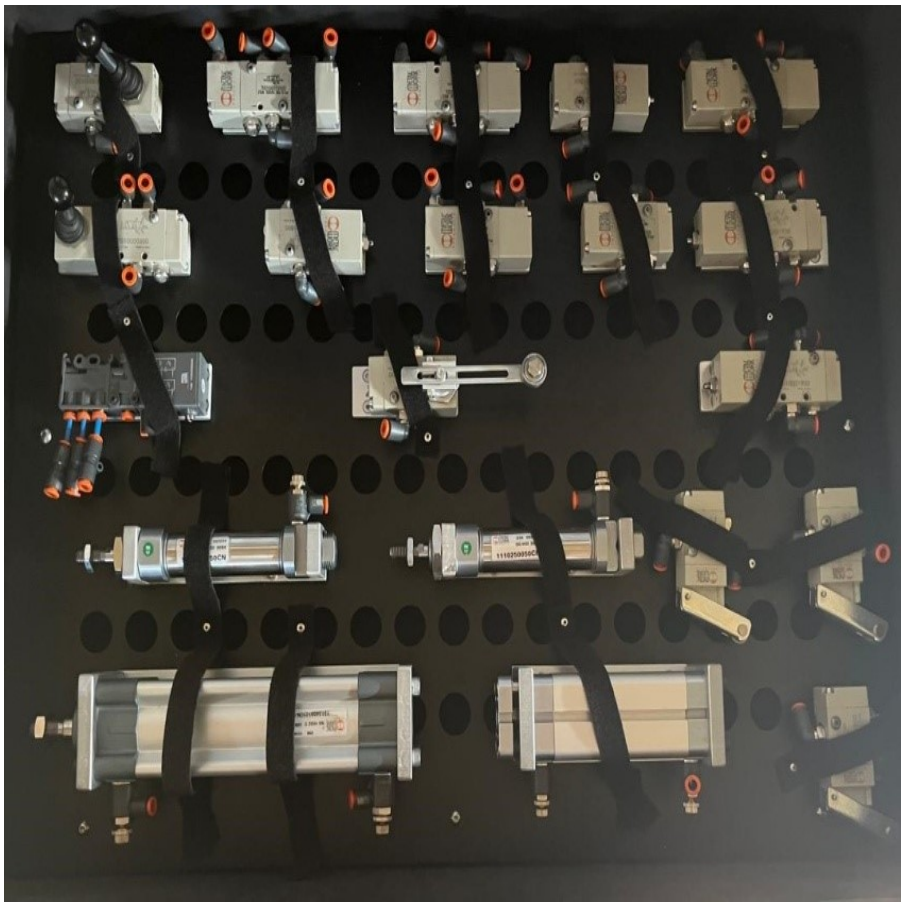
Skanda mfg Education Products
Automation Trainer- FMSR

FLEXIBLE MANUFACTURING SYSTEM - ROBOT



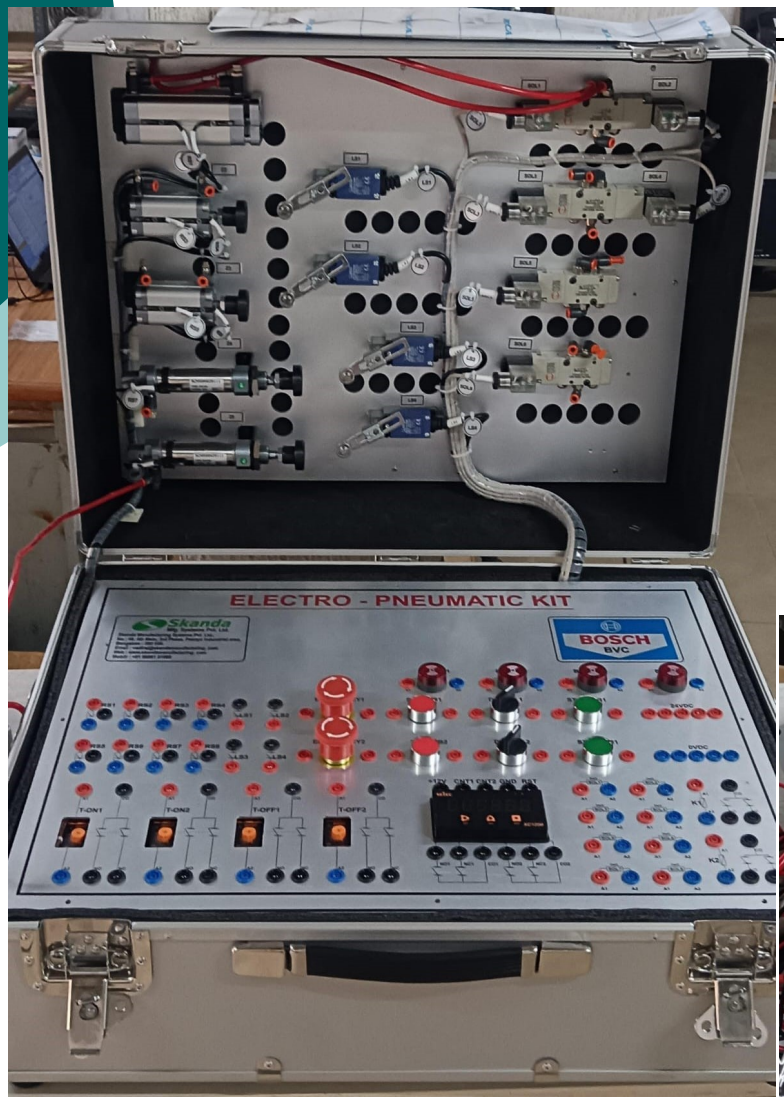
Order code:SMSFMSRTRG01

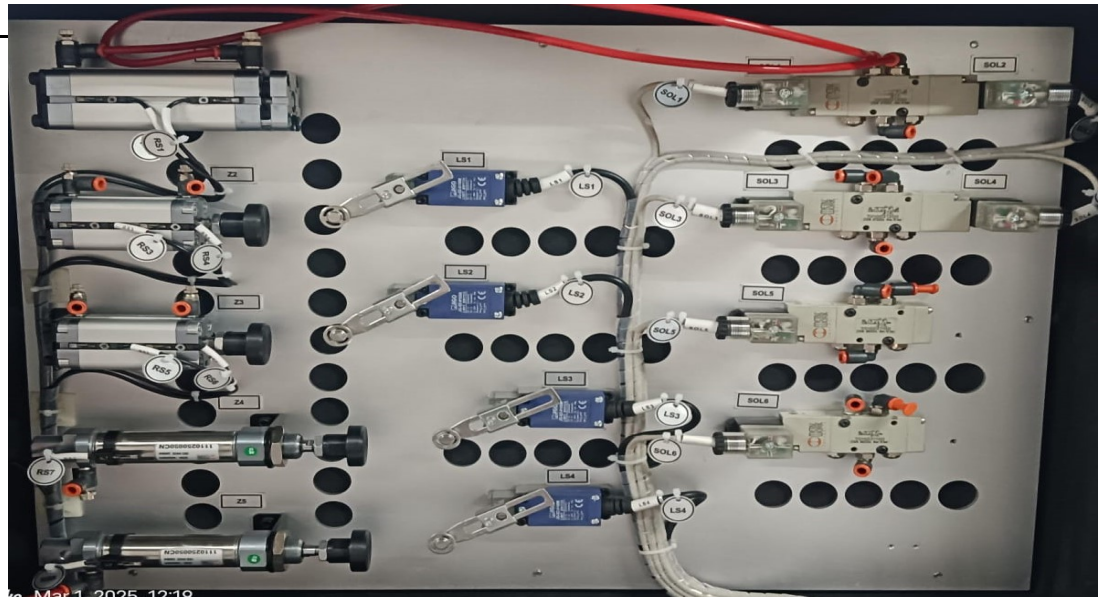
Skanda mfg Education Products
Manual Pneumatics



Order code:SMSMPNTRG01

Skanda mfg Education Products
Electro Pneumatics



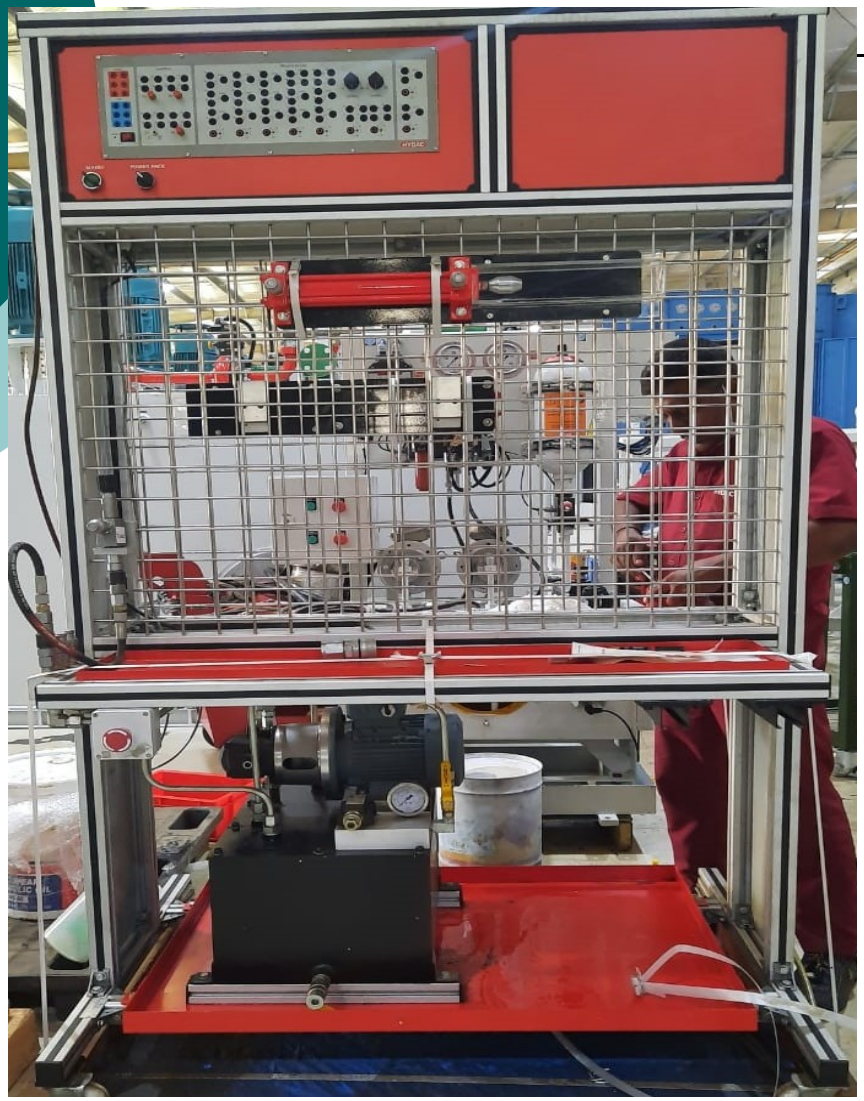


Order code:SMSEPNTRG01

Skanda mfg Education Products
Manual Hydraulic

Order code:SMSMHYDTRG01

Skanda mfg Education Products
Electro Hydraulic



Order code:SMSEHYDTRG01

Skanda mfg Education Products Robot Automation.

Order code:SMSROBOTTRG01

Skanda mfg Education Products
Internet of Things (IOT)

IOT/Industry 4.0

1. IOT as per the Details below.
2. 10 inch PC with touch screen and Window
3. Required Hardware and Software development

Order code:SMSIOTTRG01

IOT/Industry 4.0

Skanda
Mfg. Systems Pvt. Ltd.

I. Importance of Machine Monitoring

1. Optimizing Production Efficiency
2. Reducing Downtime
3. Enhancing Product Quality
4. Resource Optimization
5. Cost Reduction
6. Data-Driven Decision-Making
7. Continuous Improvement

Machine Monitoring with the help of Industry 4.0

1. Real-time Data Acquisition
2. Predictive Maintenance
3. Connected Machines and Systems
4. Remote Monitoring and Control
5. Enhanced Quality Control
6. Customization and Flexibility
7. Improved Energy Efficiency

IOT/Industry 4.0

Skanda
Mfg. Systems Pvt. Ltd.

II. Why Skanda Mfg

At Skanda Mfg, we stand at the forefront of innovation, delivering cutting-edge Industry 4.0 and Industrial Internet of Things (IIoT) solutions tailored to meet the evolving needs of your business. Here's why partnering with us sets you on the path to unparalleled success:

- No hardware required for Data Acquisition for Latest Controllers having Ethernet Ports
- Your Data Your Ownership – Business Model
- On Premise and Cloud Platforms
- Expertise in Industry 4.0 Technologies
- Customized Solutions for Your Unique Needs
- Seamless Integration with Existing Systems
- Real-Time Monitoring and Predictive Analytics
- Continuous Support and Training

Skanda Mfg License and On-Premise Setup

- At Skanda Mfg, we follow – **Your Data Your Ownership** philosophy.
- For Machine Monitoring System, we will setup a Server at your IT Set-up only.
- So data will be stored and will be available on your local network only and no any third party cloud service will be involved.
- It will surely improve data security and will drastically reduce recurring cloud costs.

IOT/Industry 4.0

Case Study 1 for Payback Calculations Skanda Mfg Machine Monitoring System:
MHR: 500 Rs / hr
Machine ON Time: 24 hrs
No of Shifts per Day: 3
If we can improve 5 mins of time in each shift, then saving will be as below:

1. **Potential Cost Savings per Day:**
   Potential Cost Savings per Day =
   Potential Time Improvement per Day × Machine Hourly Rate
   Potential Cost Savings per Day = 15 minutes/day × 500 / Rs 60 minutes
   Potential Cost Savings per Day≈125 Rs / day
2. **Monthly Savings:**
   Monthly Savings =
   Potential Cost Savings per Day × Number of Working Days per Month
   Monthly Savings = 125 Rs/day × 25 working days / month
   Monthly Savings = 3,125 Rs/month
3. **Yearly Savings:**
   Yearly Saving: 3,125 X 12 = 37500 Rs / Year

Therefore, considering 25 working days per month, the potential cost savings for the customer would be approximately 3,125 Rs per month just by improving productivity by 5 mins.

Case Study 2 for Payback Calculations Skanda Mfg Machine Monitoring System:

- MHR (Machine Hourly Rate) = Rs 1000
- Existing Machine Cost per Day = Rs 22,000 considering 22hrs working
- OEE Improvement = 2%
- Number of Working Days in a Month = 25

1. Calculate the improvement on the existing machine cost:
   Improvement Amount = Rs 22,000 * 2% = Rs 440
2. Calculate the daily savings: Daily Savings = Rs 440
3. Calculate the monthly savings: Monthly Savings = Rs 440 * 25 days = Rs 11,000

Therefore, by improving the machine efficiency by 2%, the estimated daily savings would be Rs 440, and the savings per month (assuming 25 working days) would be Rs 11,000 and yearly savings will be Rs 1,32,000 per Machine.

IOT/Industry 4.0

Skanda
Mfg. Systems Pvt. Ltd.

III. Deliverables

As discussed, key deliverables of Machine Monitoring System are:

- Cycle Time
- Part Count
- Availability of Machine (Idle Time)
- OEE Calculations in %
- Feed Rate for CNC Machines where data is available via LAN Port
- Reports on Telegram / Mail
- Hourly, Shift, Daily, Weekly and Monthly Reports
- Downtime Analysis, Downtime Interlocking
- Quality Control Module for Line Inspector
- Tool Life Analysis
- Man Machine Material Reports
- Job Scheduling and Machine Utilization

- With implementation of Skanda Mfg Machine monitoring system, Skanda team will be able to monitor above mentioned parameters.
- The implementation can be done in below phases as well.

1. **Machine Monitoring System Implementation:**
   Real Time monitoring of Cycle Time, Part Count, Idle Time, Part Counts, Feed Rate for CNC machines
   Machine and group OEE Calculations
   Reports on Telegram
   Hourly, Shift-wise, Daily, Monthly Reports
2. **Downtime Analysis:**
   Listing and finalizing standard Downtime Reasons
   Either connecting HMI on each machine for real time downtime feedback from Operator or designing webpage for downtime analysis which is to be filled by Supervisor or scanning QR code for downtime reasons.
   With implementation of HMI or QR scanning, Machine Interlocking can also be done.
3. **Job Scheduling and Machine Utilization, Tool Life Analysis and Man Machine Material Report**
   Advance features like Job Scheduling and Utilization, Tool Life Monitoring, Quality Control Module for Line Inspector are also present in system. Can be started using once all machines are live.
   Detailed report with Pivot Table for Man Machine Material Analysis.

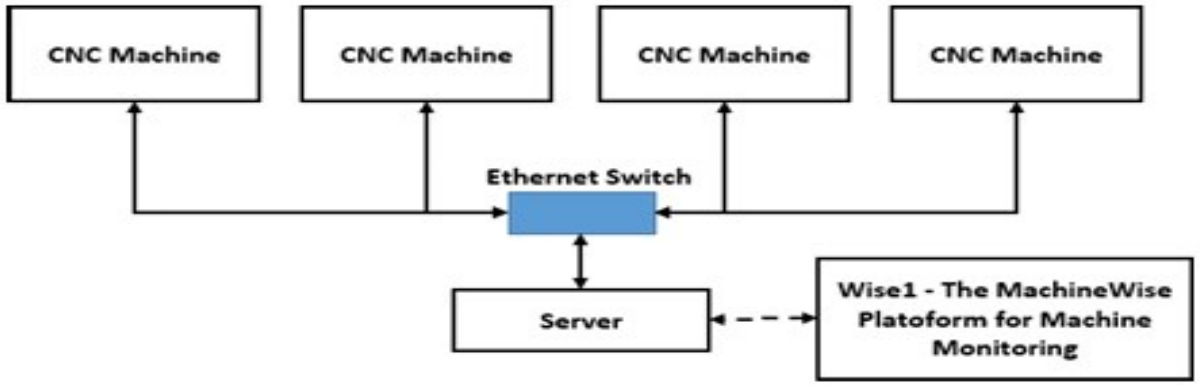
IOT/Industry 4.0

Skanda Mfg. Systems Pvt. Ltd.

1. Machine Monitoring System Implementation:

For Machines Where Data through Ethernet port is available for FANUC and Siemens Controller Machines

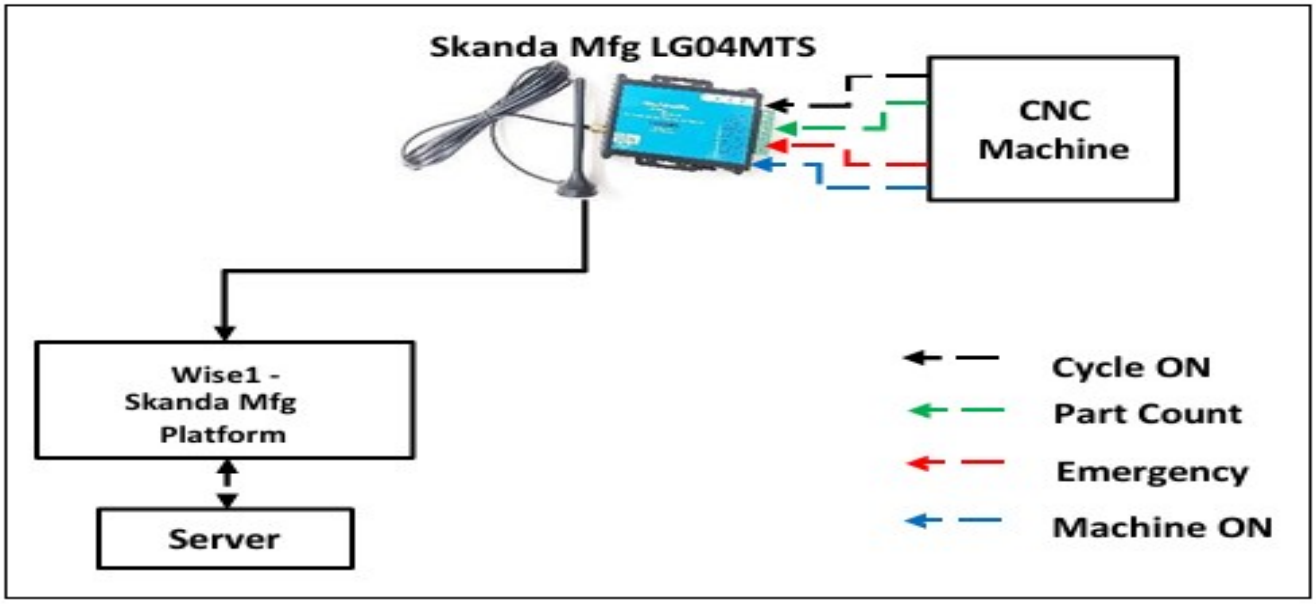
- In case of machine capability of data availability from Ethernet port (Modbus TCP), data will be collected via Ethernet Cable.
- Ethernet Cables connected to Machine will be connected to Ethernet Switch.
- From Ethernet Switch it will be directly connected to Server or to Wireless AP and then to Server.
- No any Gateway will be required in this case.
- Skanda Mfg drivers installed on Server will acquire data and processing of the same will be done locally to generate reports.
- Real-time Date such as Cycle Time, Idle Time, Part Counts, Feed Rate etc. will be gathered and will be visualized.
- OEE calculation per machine and group OEE will be calculated.



IOT/Industry 4.0

For Machines Where Data through Ethernet port (Modbus TCP) is not available

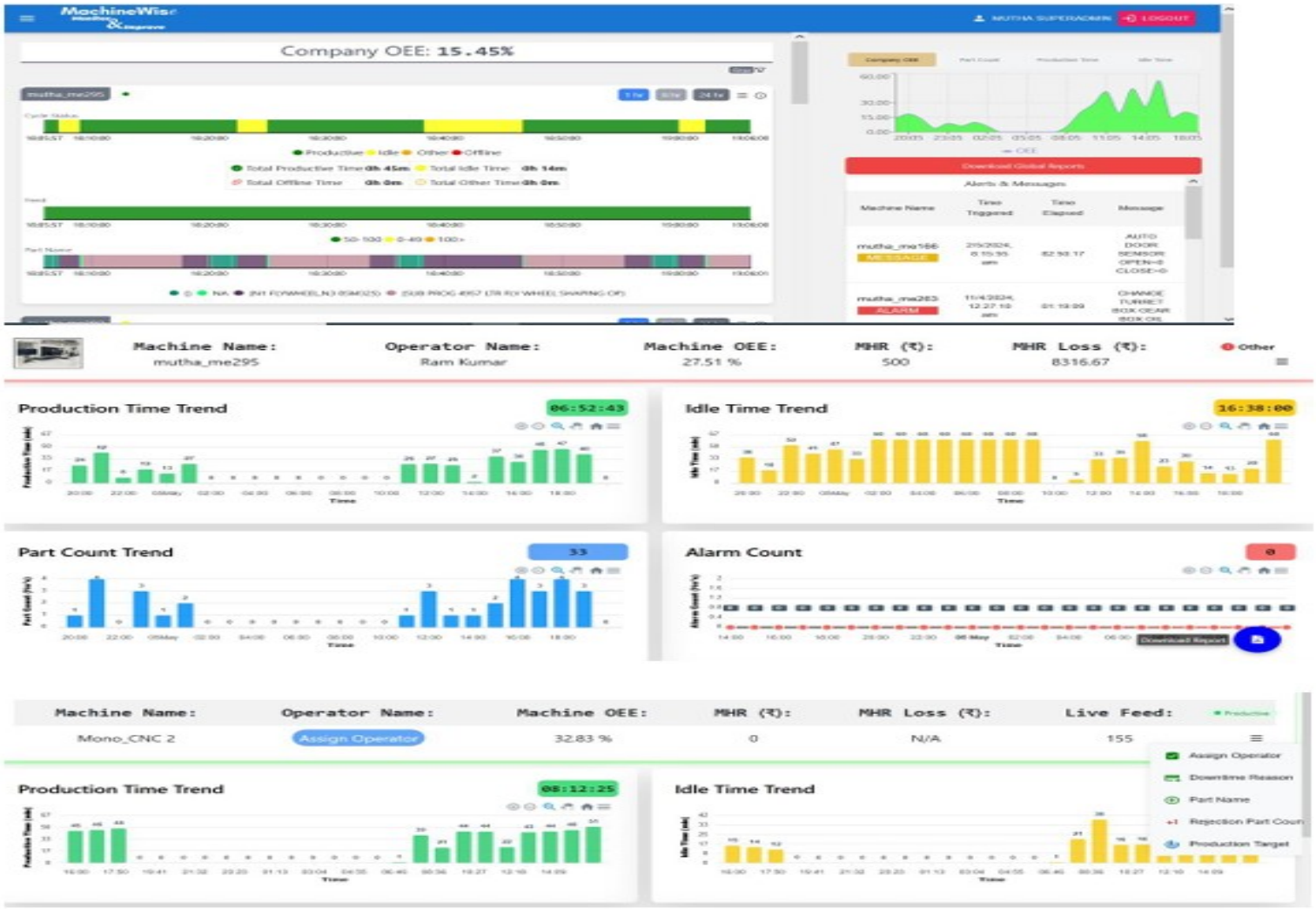
- Wiring with the relays will be done for Cycle Time, Part Count and Idle Time.
- Data from these relays will be collected to Skanda Mfg Gateway LG04MTS.
- We will install additional SMPS and Relay Board for safety purpose.
- SMPS will give 24 V DC power supply to Skanda Mfg gateway.
- Connections of Relays or Tower Lamp will be done with Relay Board for safety purpose. Hence if any issues occur in connection, it will not directly impact main Control Panel.
- This data then will be transferred to Skanda Mfg platform working on Skanda's Server via LAN.



IOT/Industry 4.0

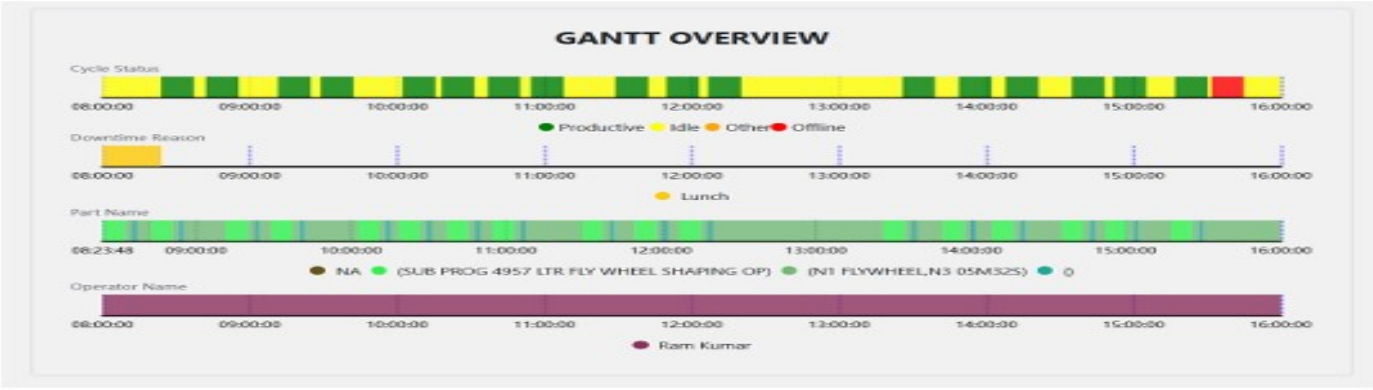
Skanda Mfg. Systems Pvt. Ltd.

Dashboard Snapshots:



IOT/Industry 4.0

Skanda
Mfg. Systems Pvt. Ltd.



TV or Monitor View:

IOT/Industry 4.0

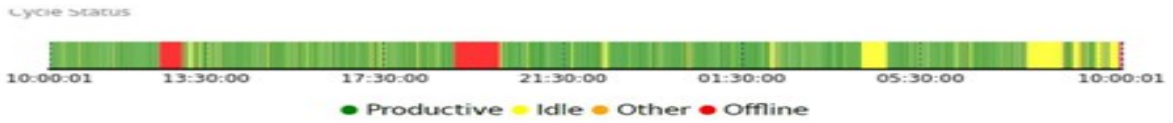
Skanda Mfg. Systems Pvt. Ltd.

Types of Advanced Reports generated from System apart from Standard Reports:

1. Individual Machine Report

DAILY SUMMARY		
Start Date : 08/12/2024 03:58 PM	**Machine Name :** Mono_CNC 2	**End Date :** 09/12/2024 03:58 PM
Total Hour : 24h 0m	**OEE :** 30.68 %	**Production :** 60 No's
Machine Ontime : 10h 24m	**Availability :** 43.37 %	**Planned Runtime :** 0h 0m
Productive Time : 7h 21m	**Performance :** 70.74 %	**Rejection Qty:** 0 No's
Idle Time : 3h 2m	**Quality Rate :** 100.00 %	**Actual Production:** 60 No's
Cycle Start : 08/12/2024 04:00 PM	**Cycle End :** 09/12/2024 03:52 PM	**Rush Time :** 0h 5m
MHR (₹) :0	**MHR Loss (₹) :**N/A	**MHR Gain (₹) :**N/A
Cycle Count : 60 No's	**Spindle Cut time :** 6h 31m	**Power Consumption :** N/A
Target Production (User Defined): N/A		**Target Production (Based On Cycles):** 79 No's

Cycle Status Timeline for : CNC 2



Productive Time	16h 9m 36s	Idle Time	4h 53m 54s
Other Time	1h 20m 40s	Offline Time	1h 36m 27s

CYCLE COLOR COUNT BY RANGE

Green:0 - 120 seconds **Yellow:**121 - 180 seconds **Red:**181 - 1000 seconds

Color	Number of Cycles
Green	53
Yellow	5
Red	1

Cycle Data

Sr. No	Start Time	End Time	Part Name	Cycle Duration (hh:mm:ss)	Production Duration (hh:mm:ss)	Idle Duration (hh:mm:ss)
1	2024/12/08 16:00:57.617	2024/12/08 16:12:26.068	(MPL-2902 2ND SETUP AFTER PROOF)	00:07:11	00:11:28	
2	2024/12/08 16:13:18.384	2024/12/08 16:21:00.520	(MPL-2902 2ND SETUP AFTER PROOF)	00:07:12	00:07:42	00:00:52
3	2024/12/08 16:21:27.688	2024/12/08 16:29:14.855	(MPL-2902 2ND SETUP AFTER PROOF)	00:07:11	00:07:47	00:00:27
4	2024/12/08 16:31:27.676	2024/12/08 16:40:43.080	(MPL-2902 2ND SETUP AFTER PROOF)	00:07:13	00:09:15	00:02:12
5	2024/12/08 16:41:12.372	2024/12/08 16:48:53.774	(MPL-2902 2ND SETUP AFTER PROOF)	00:07:12	00:07:41	00:00:29
6	2024/12/08 16:49:46.428	2024/12/08 16:57:54.321	(MPL-2902 2ND SETUP AFTER PROOF)	00:07:09	00:08:07	00:00:52

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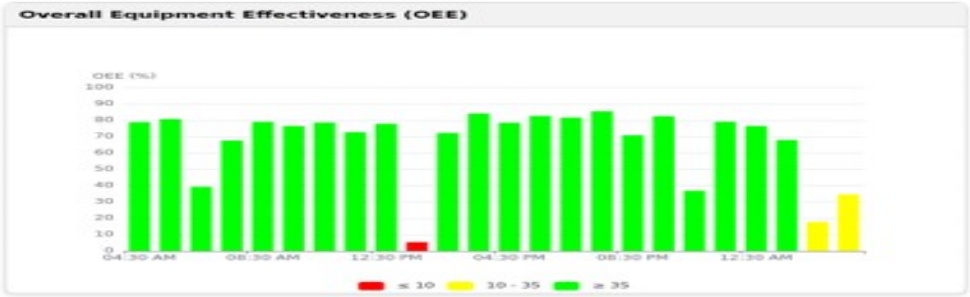

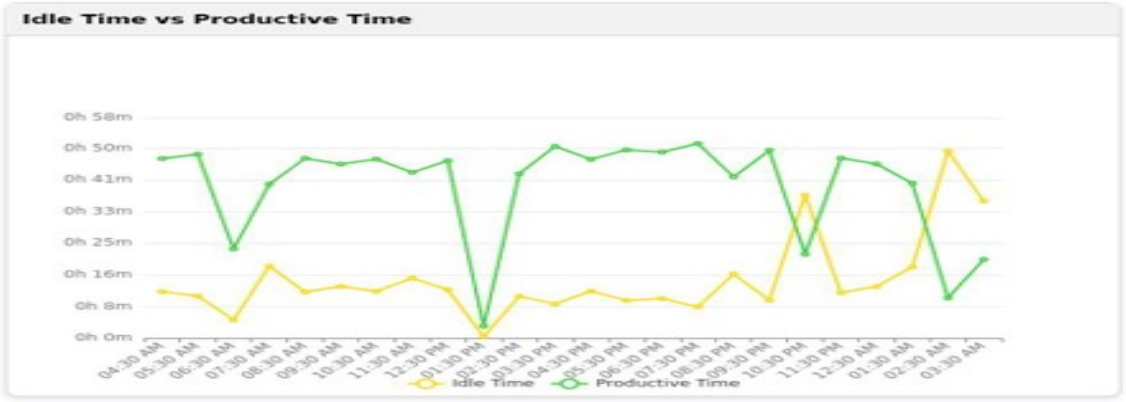

PRODUCTION OVERVIEW BY PROGRAM / PART

Sr. No.	Program Name / Part Name	Cycles	Total Cycle Time [HHmmss]	Time Utilization
1	(MPL-2902 2ND SETUP AFTER PROOF)	57	06:37:13	91%
2	(MPL 1121 1ST SETUP), (MPL-2902 2ND SETUP AFTER PROOF)	3	00:16:04	4%
3	(MPL-2902 2ND SETUP AFTER PROOF), (MPL 1121 1ST SETUP)	1	00:23:47	5%
4	Total	61	07:17:04	100%

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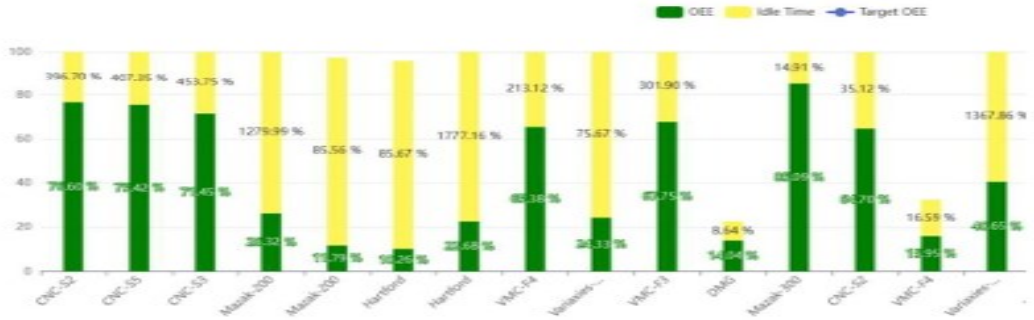
2. Company Comprehensive Report

Machine Name	T. OEE (%)	OEE (%)	Machine On Time	Production Time	Idle Time	Production Count	Availability (%)	Performance (%)
CNC-S2	N/A	76.60	793h 6m	650h 17m	142h 48m	3689	93.42	81.99
CNC-S5	N/A	75.42	786h 56m	640h 17m	146h 38m	2413	92.69	81.36
CNC-S3	N/A	71.45	769h 58m	606h 38m	163h 20m	3578	90.69	78.79
Mazak-200	N/A	26.32	684h 14m	223h 26m	460h 47m	1174	80.59	32.66
Mazak-200	N/A	11.79	35h 2m	4h 14m	30h 48m	36	97.35	12.11



3. Part Trend Report

SHIFT START	SHIFT END	SHIFT NAME
2024-09-26 08:00 AM	2024-09-26 08:00 PM	Morning

MACHINE NAME	SHIFT START	09:00 AM	10:00 AM	11:00 AM	12:00 PM	01:00 PM	02:00 PM	03:00 PM	04:00 PM	05:00 PM	06:00 PM	07:00 PM	08:00 PM	SHIFT END	TOTAL
VMC 1	08:09 AM	36	52	2	23	10	22	18	22	28	22	28	19	07:58 PM	282
VMC 2	08:05 AM	8	8	8	8	4	7	9	8	9	6	9	4	07:53 PM	88
VMC 3	08:14 AM	6	5	8	8	2	6	4	7	2	4	3	0	07:47 PM	55
VMC 4	08:10 AM	5	9	10	8	4	7	3	1	0	0	0	0	07:55 PM	47
VMC 5	08:33 AM	15	36	31	42	11	13	45	36	44	35	43	33	07:54 PM	384
VMC 6	08:09 AM	23	27	27	27	13	24	27	27	27	25	26	27	07:57 PM	300

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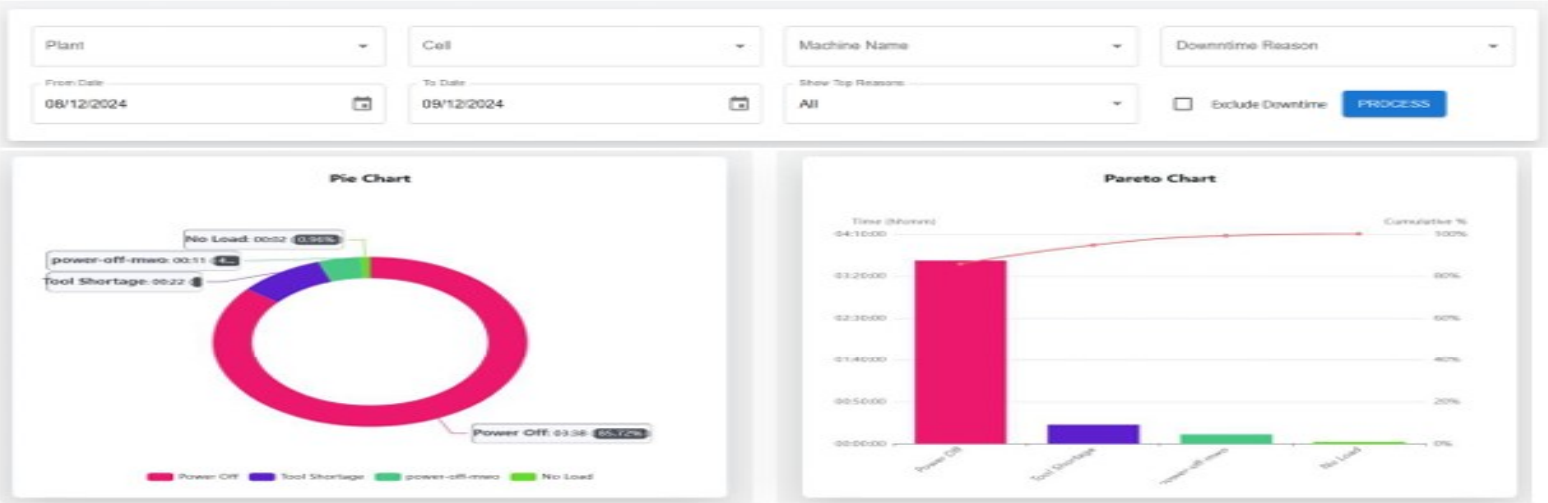
4. Downtime Matrix



5. Downtime Report

Detailed Downtime Report

Sr No	Machine Name	Operator	Start Time	End Time	Reason Name	Duration
2	mono_CNC 6 Monocraft	N/A	09/12/2024 10:53:26 AM	09/12/2024 10:54:09 AM	Tool Shortage	0h 0m 43s
5	mono_CNC 10 Monocraft	N/A	09/12/2024 10:40:43 AM	09/12/2024 10:51:57 AM	power-off-mwo	0h 11m 14s
11	mono_VMC 5 Monocraft	N/A	09/12/2024 08:08:16 AM	09/12/2024 08:12:22 AM	Power Off	0h 4m 5s
		N/A	09/12/2024 08:59:43 AM	09/12/2024 09:19:04 AM	Tool Shortage	0h 19m 20s

6. Rejection Report

Part Rejection Report

Sr. No	Date	Shift	Machine Name	Part	Operator Name	Rejection Type	Rejection Code	Rejection Qty
1	04/12/2024 11:33:00 AM	Morning	DMG-VMC-03-CM0600VI	abc	MachineWise Administrator	Quality test	R-29	10
2	05/12/2024 11:03:00 AM	Morning	DMG-VMC-03-CM0600VI	a	MachineWise Administrator	machining	R-22	1
3	05/12/2024 11:04:00 AM	Morning	DMG-VMC-03-CM0600VI	a	MachineWise Administrator	machining	R-22	2
4	05/12/2024 12:38:00 PM	Morning	Doosan-TC-01-Lynx2100LB	a	MachineWise Administrator	machining	R-22	1
							Total Rejection Qty:	14

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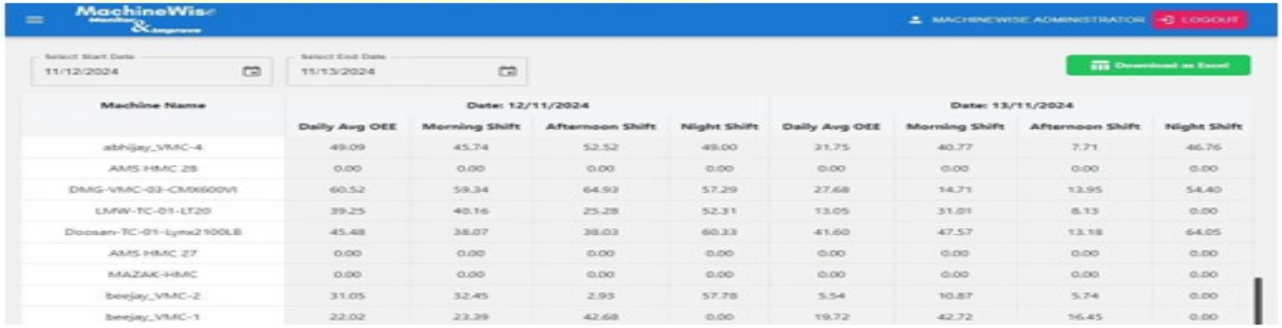
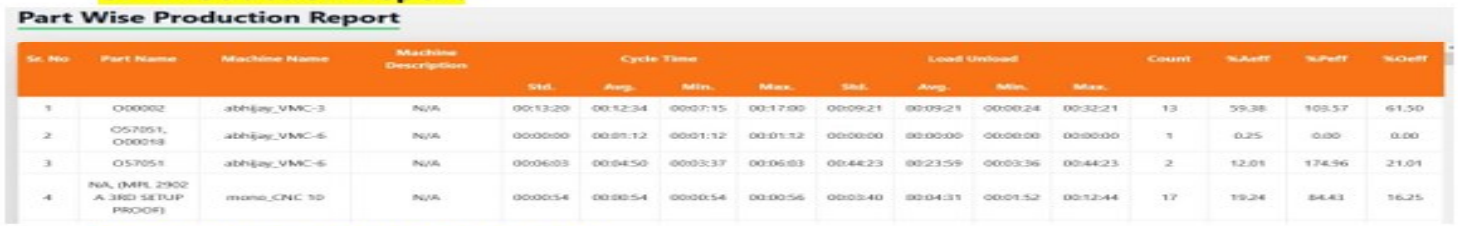
7. OEE Report (Shift-wise and Daily)



MachineWise

Machine Name	Date: 12/11/2024				Date: 13/11/2024			
	Daily Avg OEE	Morning Shift	Afternoon Shift	Night Shift	Daily Avg OEE	Morning Shift	Afternoon Shift	Night Shift
abhijay_VMC-4	49.09	45.74	52.52	49.00	31.75	40.77	7.71	46.76
AMS HMC 28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DMG-VMC-03-CMX600V1	60.52	59.34	64.93	57.29	27.68	14.71	13.95	54.40
LMW-TC-01-LT20	39.25	40.16	25.28	52.31	13.05	31.01	8.13	0.00
Doosan-TC-01-Lynx2100LB	45.48	38.07	38.03	60.33	41.60	47.57	13.18	64.05
AMS HMC 27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MAZAK-HMC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
beejay_VMC-2	31.05	32.45	2.93	57.78	5.54	10.87	5.74	0.00
beejay_VMC-1	22.02	23.39	42.68	0.00	19.72	42.72	16.45	0.00

8. Production Report



Part Wise Production Report

Sr. No	Part Name	Machine Name	Machine Description	Cycle Time				Load Unload				Count	%Aeff	%Peff	%Oeff
				Std.	Avg.	Min.	Max.	Std.	Avg.	Min.	Max.				
1	O00002	abhijay_VMC-3	N/A	00:13:20	00:12:34	00:07:15	00:17:00	00:09:21	00:09:21	00:00:24	00:32:21	13	59.38	103.57	61.50
2	O57051, O00018	abhijay_VMC-6	N/A	00:00:00	00:01:12	00:01:12	00:01:12	00:00:00	00:00:00	00:00:00	00:00:00	1	0.25	0.00	0.00
3	O57051	abhijay_VMC-6	N/A	00:06:03	00:04:50	00:03:37	00:06:03	00:44:23	00:23:59	00:03:36	00:44:23	2	12.01	174.96	21.01
4	NA, (MPL 2902 A 3RD SETUP PROOF)	mono_CNC 10	N/A	00:00:54	00:00:54	00:00:54	00:00:56	00:03:40	00:04:31	00:01:52	00:12:44	17	19.24	84.43	16.25

9. Shift-wise and Daily Report

VMC 3

Cycle status

08:00:00 09:30:00 10:30:00 11:30:00 12:30:00 13:30:00 14:30:00 15:30:00 16:30:00 17:30:00 18:30:00 20:00:00

Productive Idle Other Offline

Productive Time	7h 32m 19s	Idle Time	0h 22m 52s
Other Time	1h 10m 38s	Offline Time	1h 43m 47s
Production (No's)	86	OEE (%)	62.69

Part name

08:00:00 09:30:00 10:30:00 11:30:00 12:30:00 13:30:00 14:30:00 15:30:00 16:30:00 17:30:00 18:30:00 20:00:00

(MPL_10228_VMC_1ST) () (LINEAR APC PALLET CHANGE PROGRAM-VER C1.A.02) (MAIN PROGRAM FOR PAL SEL) offline

Part/Program Name	Count	Part/ Program Name	Count
(MPL_10228_VMC_1ST)	267	()	336
(LINEAR APC PALLET CHANGE PROGRAM-VER C1.A.02)	90	(MAIN PROGRAM FOR PAL SEL)	38
offline	3		

Operator name

08:00:00 09:30:00 10:30:00 11:30:00 12:30:00 13:30:00 14:30:00 15:30:00 16:30:00 17:30:00 18:30:00 20:00:00

No Operator Assigned LAKHAN MAJETHIYA

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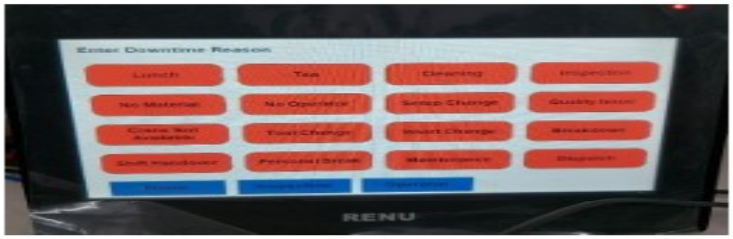
- **Downtime Analysis:**
  - There are 4 options by which we can take downtime reason for further analysis.

Option 1:

- Using Web HMI.
- Operator can punch-in valid reason of downtime.
- Operators can also login through access provided to them.
- Also, they can view performance related to their machine as well.



Option 2:

- By using Mobile Phones.
- Mobile phones will have dedicated Web App running scanning QR code of downtime reason.

Option 3:

- By using Wireless QR code scanners.
- Sheet with QR codes of downtime reasons will be pasted near machine.
- In case of downtime, Operator will scan QR code and reason will be punched in.
- Separate Server based utility will be developed for this case.

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Option 4:

- Using Skanda Mfg Platform.
- This method is **default available** in Skanda Mfg system.
- Downtimes apart from loading unloading time will be generated.
- Machine wise list of such downtimes will be given.
- Downtime reason from the list can be assigned to that particular time stamp.

- **In this proposal we have considered Option 4.**

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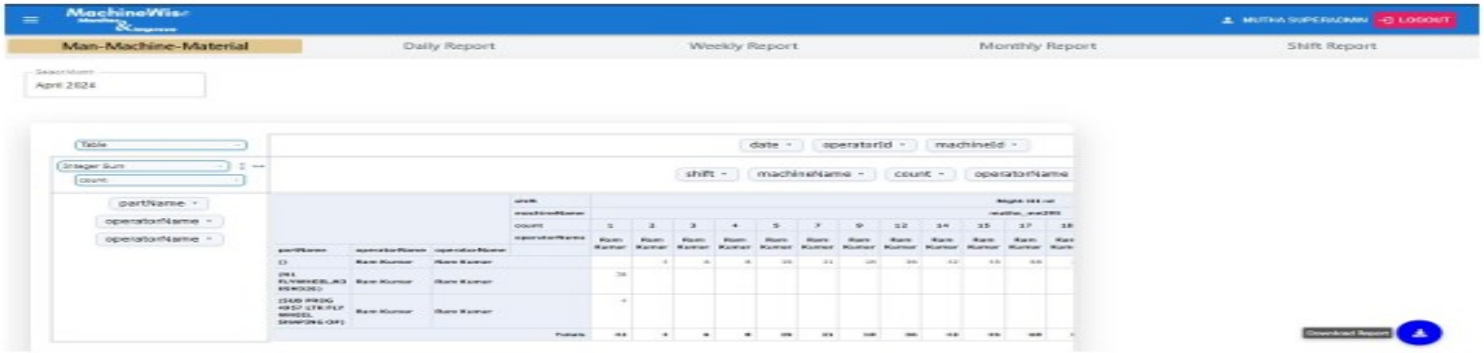
Machine Interlocking:

- Machine Interlocking can also be done using Skanda Mfg Interlocking Utility.
- Interlocking with either Emergency switch or Cycle start switch needs to be checked in coordination with Skanda team.
- If downtime increases beyond set limit, machine will be locked to start the cycle.
- Unless and until we get the downtime reason punched in by Operator, machine won't start again.
- Machine Interlocking is an optional activity.

Man Machine Material Report

- Webpage will be given to Supervisor which will be accessed from PC installed in Production room.
- On this webpage, supervisor can enter data such as:
  a. Shift-wise Operator code entry to track operator-wiseperformance
  b. Downtime Reasons for particular idle times for machines whereHMIs are not connected
  c. To generate Man Machine Material Reports



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Skanda Mfg. Systems Pvt. Ltd.

Job Scheduling and Machine Utilization

Job Scheduling

Product Id	End time	Target Quantity	Progress	Actions
12	2024/09/21, 12:41:53 PM	200	100.00 %	
12	2024/09/21, 10:21:58 PM	190	100.00 %	

intensive. Until now.

Idle Time 00:00:32	Productive Time 01:55:19
Target Parts 100	Parts Produced 100
Batch Id 123	Product Id 1234
Operation Id 10	Energy Consumed 0
Expected Cycle Time 00:04:10	Required Time 06:56:40

No.	Machine Name	Total Machine Hours	Machine Booked Hours	Free Capacity	LOAD (%)
1	brakes_moulding	720	0	720	0.00%
2	Mono_CNC 2	720	202.78	517.22	28.16%
3	Mono_CNC 3	720	0	720	0.00%
4	mono_CNC 6	720	194.44	525.56	27.01%

Skanda mfg Education Products
Training Accessories

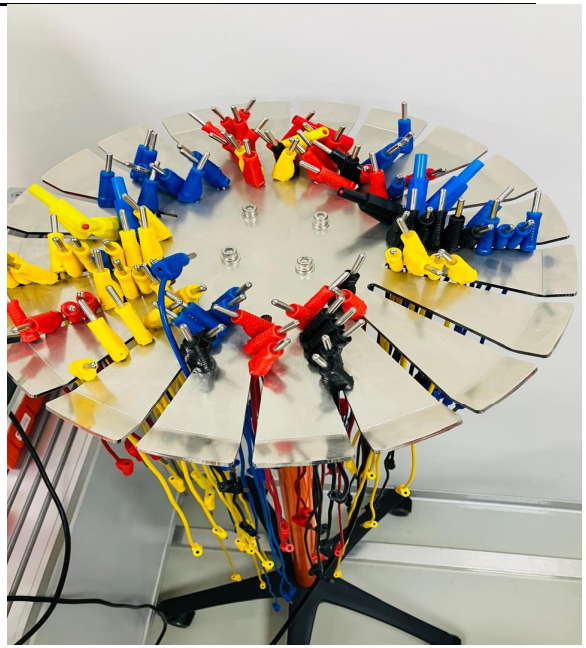
MATERIAL TROLLEY’

Order code:SMSTRLTRG01

MATERIAL STORAGE

Order code:SMSSTRTRG01

CABLE CARRIER



Order code:SMSCABLETRG01

Skanda mfg Education Products

Training Accessories

Order code:SMSTABLETRG01

CUSTOMERS

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11. AKGEC , **Gurugram, Haryana**
12. GTTI , **Coimbatore**
13. GKDITR , **Coimbatore**.
14. CPC , **Mysore.**
15. NEXTET Computer and technical centre.
16. Vikriya Institute for Technical Training & Research
15. RV University , **Bangalore**- Service of Bosch Rexroth Kits
16. Many more educati

THANK YOU

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