

# Drives & Automation General Catalogue



Smart solutions.  
Strong relationships.



**emotron**

DEDICATED DRIVE

 | A CG Product

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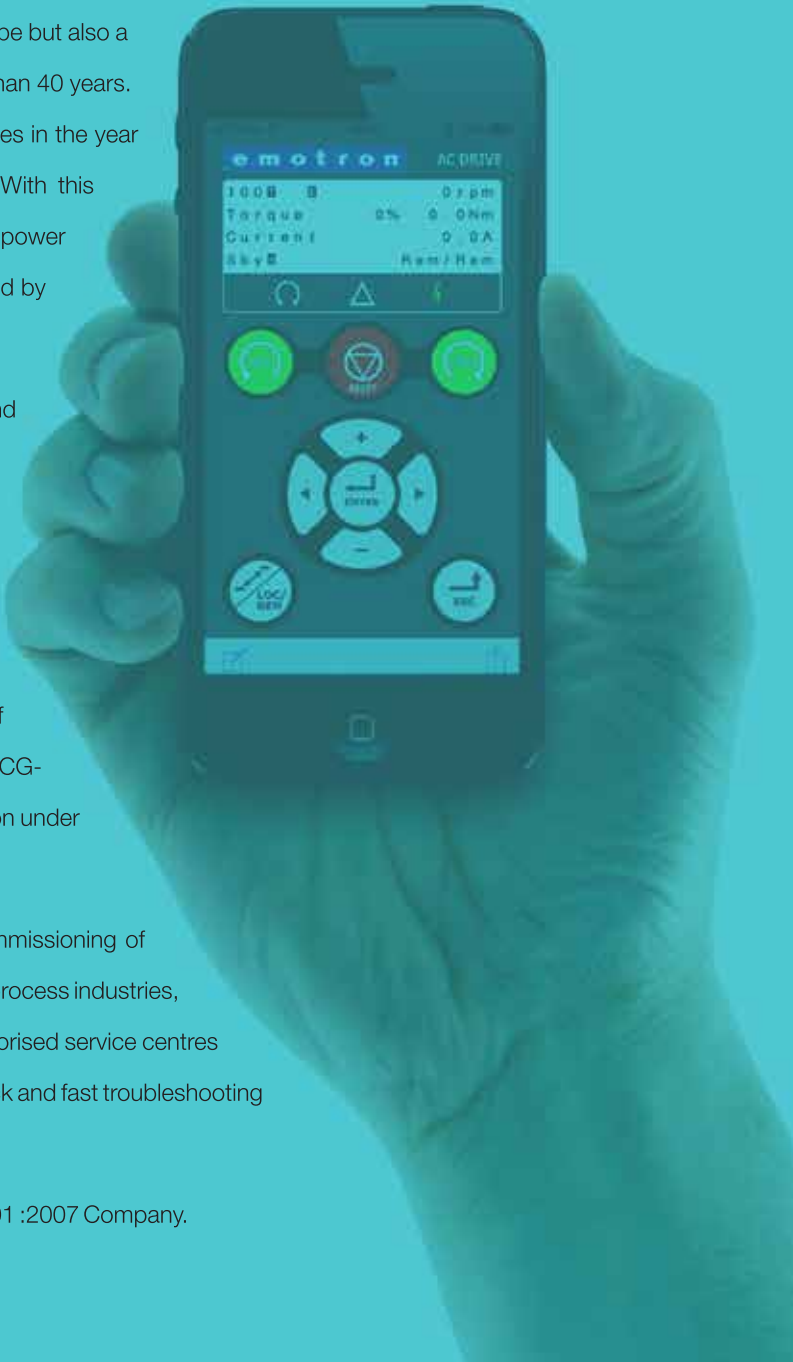
## CG Drives & Automation

CG Power and Industrial Solutions Limited being market leader in motors had aspiration to give a complete solution to its customer and thus offering peace of mind. To fulfil this, CG Power and Industrial Solutions Limited acquired Emotron, a Sweden based technological company in 2011 and established CG Drives & Automation (D&A) as an identity. Emotron was not only a technology leader in Europe but also a pioneer in AC Drive technology worldwide with an existence of more than 40 years. EMOTRON was the first one to introduce PWM technology in AC drives in the year 1976 and introduced DTC technology in AC Drives in year 1998. With this acquisition CG-D&A offers low voltage AC drives, soft starters, shaft power monitor, Solar drives with "EMOTRON" as a brand name well accepted by Indian as well as rest of the world customers.

CG-D&A has its state-of-the-art Engineering centres in Germany and Netherlands. CG-D&A has two manufacturing facilities along with in-house capability, one in India and another in Sweden to cater the World market. Both the facilities are CE as well as UL certified and supply directly to the World. CG-D&A India not only offers standard modules but provides complete engineering solution to the various industries. CG-D&A offers all services through its vast network of authorised service centres and competent regional service engineers. CG-D&A offers peace of mind to its customer by providing complete solution under one umbrella which includes drive solution with motor.

CG Emotron's expertise covers engineering, design, supply and commissioning of drive solutions for industries like power generation, water/wastewater, process industries, mining, infrastructure, machine builders and many more. CG have authorised service centres and repair centres spread across India, Europe and Middle-east for quick and fast troubleshooting support with one of the strongest distribution network pan India.

CG Emotron is an ISO 9001 :2015, ISO 14001 :2015 & BS OHSAS 18001 :2007 Company.



## Emotron VFX 2.1 Drives

Full control with precision

The Emotron VFX 2.1 Variable Speed Drives optimizes your processes and prevents damage and downtime. The combination of direct torque control, accurate speed control and efficient vector braking makes it the ideal solution for all dynamic applications such as cranes, crushers, mills, mixers and centrifuges.

### Key Features:

- Control panel with real time clock. Optional bluetooth & Wi-Fi communication.
- More I/O's available - 4AI, 2AO, 8DI, 2DO, 3RO.
- Direct torque control.
- Load monitor function included as standard.
- Marine (DNV & BV) and UL (UL 840) approved version available.
- Integrated vector braking.
- Built-in brake chopper is available as option for all sizes.
- Detachable 4 Line LCD keypad with built-in memory to store 4 sets of parameters. Built in DC choke, galvanic isolated modbus RS-485 and 24VDC standby power supply.
- Semiconductor fuse inbuilt in VFD modules above 365A.



### Range

0.75 kW to 3000 kW

### Supply

400V/525V/690V Three phase

Application - Variable Torque/ Constant torque

Protection class: IP20, IP21, IP54

Certified: CE, UL, Marine Certification



### Range

0.75 kW to 3000 kW

### Supply

400V/525V/690V Three phase

Application - Variable torque

Protection class : IP20, IP21, IP54

Certified : CE, UL, Marine Certification

## Emotron FDU 2.1 Drives

Full control and optimized operation

Emotron FDU helps you save energy and draw maximum efficiency from your processes. Emotron FDU with modular concept allows cost optimization and is a perfect choice for tailor made requirements.

### Key Features:

- Control panel with real time clock. Optional bluetooth & Wi-Fi communication.
- More I/O's available - 4AI, 2AO, 8DI, 2DO, 3RO.
- One Emotron FDU can control upto seven pumps/fans without external control.
- Energy saving function pauses the motor when it is not required to run to maintain pressure.
- Load monitor function included as standard.
- Marine (DNV & BV) and UL (UL 840) approved version available.
- Built-in brake chopper is available as option for all sizes.
- Detachable 4 Line LCD keypad with built-in memory to store 4 sets of parameters.
- Built in DC choke, galvanic isolated modbus RS-485 and 24VDC standby power supply.
- Semiconductor fuse inbuilt in VFD modules above 365A.

## Emotron TSA – Soft Starter

Starts, stops and protects

Emotron TSA Softstarters take motor control to a new level. Soft torque starting, intelligent load monitoring bypass contactor and smart stops are all included and accompanied by a robust and compact design.

### Key Features:

- Integrated by-pass with proven contactor technology.
- 3-phase torque control.
- Controlled starts, also with challenging loads.
- Smart stops with built in braking functionality.
- Slow speed and jog operation.
- Extended protection with thermal model.
- Compact dimension.
- Multi lingual control panel with single- function keys and copy function.
- High capacity dynamics vector brake.
- Coated boards as standard.
- Programmable logical and timer functions with real time clock.
- Motor load monitoring with auto-set of alarm levels.



Range

5.5 kW to 1800 kW

Supply

400V/525V/690V Three phase

Application - Variable torque/ constant torque

Protection class : IP00, IP20

Certified : CE, UL



Range

7.5 kW to 1600 kW

Supply

400V/525V/690V Three phase

Application - Variable torque/constant torque

Protection class : IP00, IP20

Certified : CE, UL

## Emotron MSF Softstarters

More than just a soft start

Whilst traditional Softstarters handle the most common start challenges, Emotron MSF 2.0 offers a lot more. Start and stop sequences are optimized. Advanced braking techniques increase productivity. Built-in monitor functionality protects your process from inefficiency, damage and downtime. Easy installation and set-up save time and money.

### Key Features:

- Torque control provides linear acceleration and deceleration..
- Minimizes impact on equipment and eliminates need for motor controlled valves.
- Built-in vector brake offers quick and safe braking of screens. No need for mechanical brakes.
- Built-in shaft power monitor sends warning or stops the pump when load is outside your chosen limits.
- Smart stops with built in braking functionality.
- Analog sensor can be connected directly to MSF to control start and stop levels.
- MSF torque controls minimizes start currents.

## Emotron VSX

Emotron VSX Series Drives offer customised solutions for your required application in an incredibly compact design with technologically advanced package capable of driving Induction and Permanent Magnet Motor. The LCD graphical display offers user-friendly interface and set up will have your system up and running in time.

### Key Features:

- LCD graphical display with oscilloscope feature as standard.
- Strong overload capability with 200% of rated load for 1 sec.
- High speed pulse input and output up to 100 KHz.
- Compatible for Induction Motor and permanent magnet Motor.
- V/F fully separated and semi separated operation.
- Built-in PLC logic functions, virtual digital I/O's with multi logic functions, timer and comparators.
- Built-in EMC filter.
- EmoWizard tool for convenient debugging.

### Benefits :

- Excellent performance with high start torque characteristic.
- Robust Drive with conformal coated boards enables application in hot and humid climate.
- Efficient cooling, improved reliability with independent air and duct design.



### Range

0.75 kW to 22 kW

### Current

2.5 Amp to 45 Amp

### Voltage

3 Phase 380 to 480 VAC/50HZ

Certified : CE



### Range

0.75 kW to 4 kW

### Supply

2.5 Amp to 9.5 Amp

### Voltage

3 Phase 380 to 480 VAC/50HZ

Certified : CE

### Benefits :

- Excellent performance with high start torque characteristic.
- Efficient cooling, improved reliability with independent air and duct design.

## Emotron VSM

Emotron VSM Series Drive offers more compact design with several advanced features. The compact design offers easy, flexible and user friendly installation which allows your system to be operational in no time. Emotron VSM offers reliable and cost efficient solutions for various variable and constant torque applications.

### Key Features:

- Standard detachable LED display.
- Strong overload capability with 200% of rated load for 1sec.
- Built-in brake chopper.
- Heavy duty Drive for various applications.
- High speed pulse input.
- Supports both Induction Motor and Permanent Magnet Motor.
- Built-in PLC logic functions, virtual digital I/O's with multi logic functions, timer and comparators.
- Built-in RFI filter.
- EmoWizard tool for convenient debugging.

## Emotron VSS Drives

Small yet powerful

EMOTRON VSS is a multipurpose AC Drives which is packed with features to meet applications requirements. VSS is cost effective, easy to install, easy to use drive for the single phase supply system in challenging industrial environments. VSS series meets user's need and runs variety of applications like packaging, wood working, pumps, blowers, mixtures and other machineries.

### Key Features:

- I/O's- 5DI, 2AI, 1DO, 1AO, 1RO.
- Fixed length control.
- Field weakening control.
- Timer and counter function.
- Restart upon power loss.
- Motor thermal protection.
- Wobble frequency control.
- Multi- functional programmable key.
- High- precision torque control.
- V/F separated control.
- Over-voltage, under-voltage & motor thermal protection.
- Built-in RS485.
- Built-in brake chopper.
- Process PID control.



### Range

0.37 kW to 2.2 kW

### Supply

220V Single phase

Application - Variable/Constant torque

Protection class : IP20

Certified : CE



### Range

0.75 kW to 22 kW

### Supply

380V - 460V Three phase

Application - Elevator

Protection class : IP20

Certified : CE

## Emotron VSE Drives

Elevator Drives

CG Emotron new VSE Dedicated Elevator Drives is a reliable choice for elevator OEMs and end users for new and modernization of older elevators. The drive works effortlessly and smoothly with all elevator types and includes excellent tuning features for the safest, most efficient and most comfortable passenger experience without vibration and jerks. VSE features includes safety and reliability, UPS applicable, dedicated brake control sequence and commendable levelling .

### Key Features:

- I/O's- 3AI, 2AO, 7DI, 2DO, 2RO
- Safety and reliability UPS applicable.
- Dedicated brake control sequence.
- Commendable levelling.
- Silky smoothness
- Emergency and inspection sped programmable.
- Quick commissioning.
- Built-in dynamic braking unit for all models.
- Light load detection feature.
- Built in baseblock feature.

# Suraj Emotron VSR and VSRE Drives

Efficient and user-friendly operation for solar pumping

Emotron VSR Series Drives offer reliable, cost-efficient and user-friendly operation. The Emotron VSR series has been specially developed for solar water pumping. Built-in self adaptive high accuracy maximum power point tracking (MPPT) algorithm of VSR ensures maximum water flow output. The compatibility of VSR with AC as well as DC input gives user the flexibility to optimize the operation and improve reliability of operation.



### Key Features:

- Dual input supply AC or DC.
- Built-in MPPT algorithm.
- Enter to sleep mode automatically at weak light and exit when intensity of light is strong.
- High water level dormant state.
- Under load pre-warning.
- Support PMSM and Induction Motor.

### Range

0.4 kW to 22 kW

### Supply

AC 110V and DC 170V/AC 220V and DC 310V/AC 380 and DC 540V

Application - Solar water pumping, flour Mill

Protection class : IP20

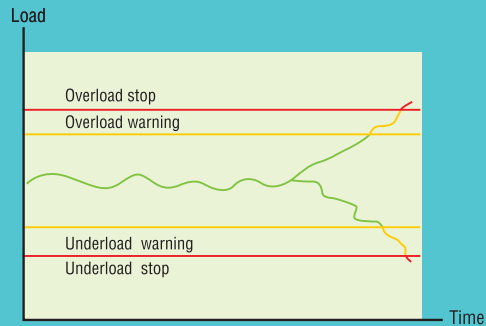
Certified : CE



## Emotron M20 Shaft Power Monitor

Your shield against overloads and damage

Emotron M20 Shaft Power Monitor helps you save time and money. It protects your pumps and other equipment against damage and detects process inefficiency. Early warnings allow you to take preventive action. Unique features include measuring shaft power output and using the motor as a sensor. The result is reduced maintenance and installation costs, extended equipment lifetime and increased reliability.



### Range

0.4A to 999A

### Supply

220V/400V/525V/690V Single phase / three phase

Application - Fixed speed load

Protection class : IP20

### Key Features:

- Detects over and under load, sends warning or stops the pump.
- Uses pump motor as sensor, eliminates need for external sensors. No moving parts increases reliability.
- Shuts pump off before it runs dry.

## Emotron AFE Drive

Low harmonic drives  
Regenerative drives

Emotron Active Front End Drives will save costs and improve reliability in your process. They are available in two versions: Low Harmonic Drives and Regenerative Drives. Both are based on standard Emotron AC Drives, providing the same benefits in reliability, easy handling and advanced functionality, as well as a wide range of options. Emotron AFE units are delivered as complete solutions in IP54 classified cabinets. Setup is easy thanks to plug-and-play functionality to the mains supply.



### Key Features:

- Trouble free operation.
- Extremely low harmonic distortion, less than 5%.
- Unity power factor.
- Regenerative braking.
- Reactive power compensation.
- Built-in semiconductor fuse.

### Range

55 kW to 1100 kW

### Supply

400V/525V/690V Three phase

Application - Variable/Constant torque

Protection class : IP20, IP21, IP54



## Compact, Robust, Reliable, Engineered Panel Solution:

CG Drives & Automation offers complete drive panels solutions that ensure the safe and cost-efficient operations.

We provide drive panel solutions to users, system integrators and OEMs around the world.

### Range

0.75 kW to 160 kW Standard Drive Panel

0.75 kW to 3000 kW Customized Drive Panel

### Supply

400V/525V/690V Three phase

Application - Variable/ Constant torque

Protection class : IP42, IP54

## EmoSmart – Human Machine Interface

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Emotron EmoSmart Series HMI is based on a modern, powerful & user friendly design having high quality display resolution, large memory and a powerful configuration that can easily achieve the human-machine interaction in various fields and industrial automation.

### Unique Features

- Higher computing performance with high speed processor
- High resolution and high contrast with reliable touch panel
- The built-in stereo amplifying speaker provides efficient alarm notification

### Benefits :

- Mechanism design breakthrough. The front panel has acquired the IP65 waterproof certificate & back panel is IP20.
- ABS Black/Gray enclosure for greater vibration resistance and higher tolerance for ambient environment compared with other enclosures.
- This system allows users to assign authority levels & register passwords to set permissions for different user groups for security control.

### Peripheral Interfaces :

- Support SD card.
- Supports USB host 2.0 ports & USB client 2.0 ports
- Built-in communication ports RS232/422/485.
- Built-in ethernet ports in 7 inch.



**Emosmart: 4", 7" & 10"**



## EmoLog – Programmable Logic Controller

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Emotron EmoLog Series is a high performance compact type Programmable Logic Controller (PLC) for your automation process. It can be widely applied in manufacturing industries including SPM, textile, chemical fiber, machine tool, cables, food and beverages, packaging, plastic steel, construction machinery, air conditioner, elevator printing and many more.

### Benefits :

- Configure upto 256 I/O points.
- Support ladder and instruction list programming.
- Support optional board up to 2 no's (for AI/AO, Ethernet Port).
- Compatible for N:N protocol and RS485 communication port, you can create a network of up to 8 CPU.
- Reliable and stable high speed micro USB port for programming download/monitor.
- User friendly programming software.

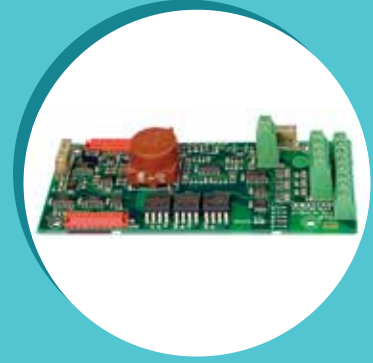
### Unique Features

- STM32 high-performance MCU platform
- Available 14 & 24 I/Os CPUs with transistor & relay configuration
- Built in 2 high speed digital inputs max. 200kHz frequency
- Built in pulse output type PWM/PTO
- Built-in RS422/RS485 communication port
- Program memory up to 128Kb
- Supports 64k-step ladder
- Built - in real time clock
- Operating temperature 55°C

# Standard options for Emotron VFX / FDU



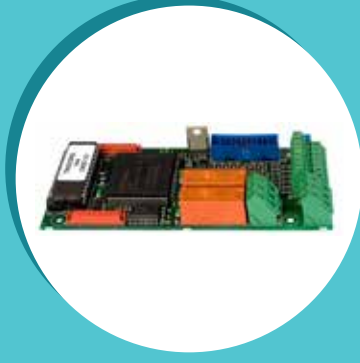
Profinet 2-Port Communication Card



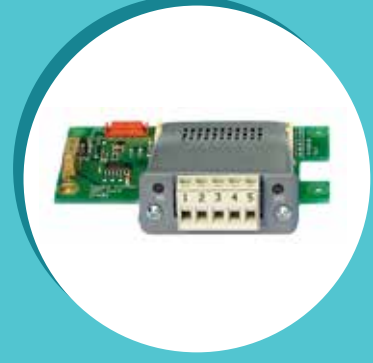
PTC-PT100-Board



Crane Interface Card



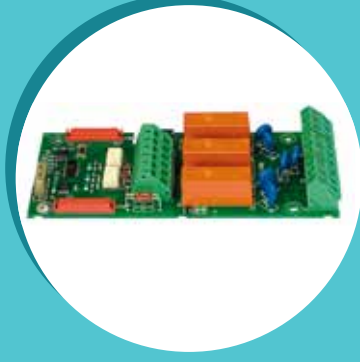
CRIO Board - VFX



Device-Net Board



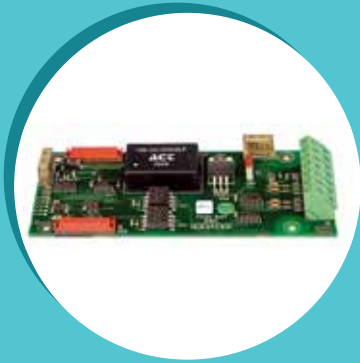
EtherCAT Communication Card



Extended-IO-Board



Modbus-TCP-Board



Optional Encoder Card Interface



Profibus Communication Card



Profinet 1-Port Communication Card

# Applications

CG Drives & Automation offers complete drive solutions that ensure the safe and cost-efficient operation of demanding industrial applications. We provide smart solutions to users, operators, system integrators and OEMs around the world, wherever there are demanding applications, like for cranes, water handling systems and material handling systems.

| Application           | VFX | FDU | VSM | VSX | VSS | VSR | VSE | M20 | TSA/MSF |
|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|---------|
| Pump                  |     | ✓   | ✓   | ✓   | ✓   |     |     | ✓   | ✓       |
| Solar Pump            |     |     |     |     |     | ✓   |     |     |         |
| Fan                   |     | ✓   | ✓   | ✓   | ✓   |     |     |     | ✓       |
| Blower                |     | ✓   | ✓   | ✓   | ✓   |     |     |     | ✓       |
| Conveyors             | ✓   |     | ✓   | ✓   | ✓   |     |     |     |         |
| Compressor            | ✓   | ✓   |     |     |     |     |     |     |         |
| Wire Drawing Machine  | ✓   |     |     |     |     |     |     |     |         |
| Grinding Machine      | ✓   |     |     | ✓   |     |     |     |     |         |
| Winders               | ✓   |     |     |     |     |     |     |     |         |
| Crane Hoisting        | ✓   |     |     | ✓   |     |     |     |     |         |
| Crane Traverse        | ✓   |     | ✓   | ✓   |     |     |     |     |         |
| Agitators             | ✓   |     |     | ✓   |     |     |     |     |         |
| Extruders             | ✓   |     |     | ✓   |     |     |     |     |         |
| Washing Machine       | ✓   |     | ✓   | ✓   |     |     |     |     |         |
| Rubber Mill           | ✓   |     |     | ✓   |     |     |     |     |         |
| Sugar Mill            | ✓   |     |     | ✓   |     |     |     |     |         |
| HVAC                  |     | ✓   |     |     |     |     |     |     |         |
| Damper Control        |     | ✓   | ✓   | ✓   |     |     |     |     |         |
| Lifts Door Control    |     |     | ✓   | ✓   | ✓   |     |     |     |         |
| Lifts & Escalators    |     |     |     |     |     |     | ✓   |     |         |
| AHU                   |     | ✓   |     |     |     |     |     |     |         |
| Ball Mill             | ✓   |     |     |     |     |     |     |     |         |
| Textile Machinery     | ✓   |     |     |     |     |     |     |     |         |
| Centrifuge            | ✓   |     |     |     |     |     |     |     |         |
| Spinning Machine      | ✓   |     |     |     |     |     |     |     |         |
| Rotary Klins          | ✓   |     |     |     |     |     |     |     |         |
| Printing              |     |     |     |     | ✓   |     |     |     |         |
| Crushers              | ✓   |     |     |     |     |     |     |     | ✓       |
| Press                 |     |     |     | ✓   |     |     |     |     |         |
| Plastic Machinery     | ✓   |     |     |     |     |     |     |     |         |
| Packaging             | ✓   |     |     |     |     |     |     |     |         |
| Mixers                | ✓   |     |     |     |     |     |     |     |         |
| Pulper                | ✓   |     |     |     |     |     |     |     |         |
| Rubber Machinery      | ✓   |     |     |     |     |     |     |     |         |
| Machine Tools         | ✓   |     |     | ✓   |     |     |     |     |         |
| Material Handling     | ✓   |     | ✓   | ✓   | ✓   |     |     |     |         |
| Cheese Winder         |     |     |     |     | ✓   |     |     |     |         |
| Incense Sticks        |     |     |     |     | ✓   |     |     |     |         |
| Auto Trolley Printing |     |     |     | ✓   |     |     |     |     |         |

## Registered Office

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**For more information visit:**

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