

# Automation & Control Products for **Speed, Position & Power**



- Soft Starters
- Electronic Brake
- Load Monitors
- Speed Switches
- Level Monitors
- Transducers
- Proximity Switches
- Optical Barriers
- Sequence Timers

# Drive & Control Products for Induction Motors



## HFSR Series Reactor Soft Starters

Series HFSR 201

## FCMA Iron Core Soft Starters

Series FCMA 101

These are ideal and cost effective proven Soft Starters pioneered by us. Thousands of units are in operation since 1978. These are designed as per IS 5553 (part3) with Air core (core less) to achieve Harmonics Free continuous increasing voltage for starting of motors. The FCMA starters are specially designed with smaller dimension and are more useful for LT Motors. These starters can be connected on Line side / Neutral side of motor terminals.

Available from 45KW to 35MW.

415v/3300v/6600v/11000v/13500v/50Hz/60Hz motors.

**Useful for :** Pumps, Compressors, Fans, Crushers, Mixers, Centrifuge Machines, Windmills

## Digital Soft Starters **MICRO START**

For LT/HT Motors

The digital soft starters are being manufactured with best overseas know how and key components for last 28 years. Hundreds of units are in operation.

The units are available for Motor rating as below :

**Single Phase LT** - up to 15KW      **3 Phase LT** - 415 / 690 V up to 1000 KW

**MV** - 3.3/6.6/11 KV up to 10 MW.



## HFLR Liquid Resistance Soft Starters Series HFLR 301

Manufactured with acquired technology of a field proven product. These are best starters to start a slipring motor. Operates on principle of change in resistance of liquid due to current and temperature. Special models with sensing the difference in resistivity between liquid and its vapour are available.

For higher rating of motors the resistance of liquid is changed by moving electrodes. The liquid chemical is specially designed to last long and is maintenance free.

Available up to 20MW with Rotor voltage up to 3500V

**Useful for :** Compressors, Crushers, Ball Mill, Mixers, Wire Drawing

## SMSC : Slip Ring Motor Soft-starters Series SMSC 301

These are designed using specially selected Iron core impedances to achieve Automatic starting of Slipring motors. The SMSC acts as a auto adjusting Rotor impedance during starting and is by passed during running special models with slip Regulators.

Available from 45 kW to 2000 kW LT/HT motors.

**Useful for :** Pumps, Crusher, Compressors, Machine Tools, Mixers, Fans, Cane Cutters, levellers etc.



## Electronic Brake Series EB 901

For controlled braking action of Induction Motor by injecting DC into stator winding. Different models for motor rating for 1kW to 150kW. Units are available in IP-00/IP-30/IP-42 enclosures. Special models for auto-control action by sensing motor speed / back emf. Saves precious production idle time.

**Useful for :** Stopping of High Inertia Machines such as Centrifuge, Grinders, Conveyors etc.

# Control & Safety Products for Automation

## Electronic Speed Switches / Tachometers / Anemometers



These are non - contact type speed monitoring units for monitoring Over-speed / Under-speed of any rotary or linear motion. The units are available as 2 part version (Monitoring unit + Sensor Probe).

The units are available for indoor & outdoor applications in different enclosure. The standard models are having a potentiometer for setting & a relay operates at preset value. Special purpose models are available with Digital Indication / 4-20 mA output / RS-485 port. Wide range of speed sensors (Inductive/ Magnetic/ Optical).

Speed sensing range from 0.1 to 10,000 RPM. More than 40 models. The standard models are : RM 221, RM E21, RM P261

Special models for Sensing Wind-speed (Anemometer), Belt Speed and Belt loading.

**Useful for :** Safety of Bulk Material Handling Conveyors in Coal, Cement, Fertilizer, Sugar, Process Industries.

## Level Monitors

Different type of units are available for sensing levels of different materials stacked in Bunkers, Open space, Discharge chutes etc.

**Series SW 421** : Tilt switches are useful for sensing top level of bulk material in open yard or a bunker.

**Series RM305** : Ultrasonic sensors available for sensing liquid levels, slurry etc.

**Series SW 620** : RF point level sensor for sensing top level of bulk material in silo/ Bunkers.

**Useful for :** Monitoring levels of Bulk Materials, Liquids, Grains, Plastic granules in Material Handling Plants, Thermal Power Stations, Process Industries etc.



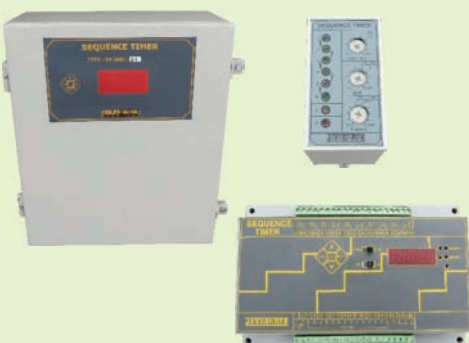
## Process Control Timers / Sequence Timers

### Series ST261

Special function custom built timers to meet various time dependent control actions. Sequence timers with programmable sequence available. Provision for RS-485 connectivity is available. These are Micro-processor based timers with Digital display / Key-pad setting.

Available upto 75 channels.

**Useful for :** Sequential control of process operations such as Bagfitter cleaning. Sequential starting of motors.



## Transducers Series RM313

These are useful for converting electrical parameters such as voltage / current / Resistance / Power into process compatible linear signal such as 4-20 mA or 0-10V.

These are highly accurate and reliable. These are having low temp-drift. Available in compact Din Rail mounting enclosures.

Available in single channel as well as multi-channel outputs. Option of digital readout of output parameter in user friendly format.

**Useful for :** Process Industries, Petrochemicals and Automation Industries.

# Proximity Switches

INDUCTIVE / CAPACITIVE / OPTICAL / MAGNETIC / ULTRASONIC



Wide range of different types of Proximity / Switches useful for position/ Speed sensing of metallic objects.

Switches are available from 4mm dia to 140mm dia with sensing gap from 0.5mm to 100mm for Inductive type and upto 50 meters for optical thru beam type. The basic series are as below.

**Series SW 405** - **Inductive** switches in 2/3/4 wire versions with all DC / AC Voltages.



**Series SW 505** - **Capacitive** switches in 2/3/4 wire DC / AC voltages.



**Series SW 705** - **Magnetic** switches Reed Switch / Hall effect sensor for position sensing of ferrous material or for high speed measurement of gear wheels.



**Series SW 605** - **Optical** switches with Diffuse scan / Thru beam / Retro Reflective models in 2/3/4 wire and all DC / AC voltages.



**Useful for** Position Sensing / Counting / Speed Monitoring in Machine Tools, Robotics, Bulk Material Handling, Pharmaceuticals, Dairy, Foundries, Steel Plant, Plastic Industries etc.

Special models such as colour mark sensors, high temperature, Intrinsically safe for flame proof application, large sensing areas, linear output etc. are available. Models equivalent to International Brands are available.

**Series RM 305** - **Ultrasonic Sensors** for level sensing. Available in M30 / M50 / M80 size. Suitable for DC 24 voltage.

**Useful for** : Sensing Range upto 20 meters.



## Optical Barrier Systems

**Series OBS 6057**

A reliable optical curtain for safety of humans from unintentional entry in hazardous locations.

Available in different pitch of beams and upto 20 No. beams.

Sensing range up to 5 meters for wider scanning area.

Immune to visible light variations and Electro-Magnetic noise.

**Useful for** : Human safety while working on heavy duty machines like Presses, Cutters, Bending machines and Machine centers.

\* For more technical details contact works



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