

# Agriculture & Rural Electrical Products



#### AGRI CUSTOMER CARE



Scan the QR code  
for any service, complaint,  
installation, or other support

#### SMARTSHOP



We are online!  
Scan the QR code to buy

#### Electrical Standard Products

#### Lauritz Knudsen Electrical & Automation

A/600, Shil-Mahape Road, TTC Industrial Area, MIDC Thane,  
Mumbai, 400 710, Maharashtra

#### Customer Interaction Center (CIC)

Phone no: 022 6932 7800, E-mail: CIC@LK-EA.com

Website: smartshop.lk-ea.com



# MR-Gi

## Digital Single Phase Controller

### Features

#### MR-Gi (Manual Version)

- › Gives complete protection from over voltage, under voltage, and dry run.
- › Settable
  - › Overload range
  - › Under voltage range
  - › Dry run threshold
- › Hassle-free auto current setting ensures convenience.
- › Through OFF Timer it switches OFF pump after a certain pre-set time interval.
- › With Capacitor Cut OFF feature it cuts OFF start capacitor in cases where the ON push button is pressed for a long time, enhancing capacitor life.

#### MR-GiA (Auto Version with in-built WLC)

- › A RTC (Real Time Clock) timer ensures automatic pump ON/OFF as per time setting.
- › Also, a cyclic timer ensures pump ON/OFF periodically.
- › Through time compensation feature it provides flexibility to operate the pump by making up for lost time due to power supply failure in timer mode.
- › Automatic ON/OFF to fill/empty one tank/two tank system with in-built WLC.
- › WLC can be bypassed if required.
- › Provides an upper tank full/lower tank empty indication for WLC operation.
- › All features of manual version

#### MR-GiB (Auto version W/O WLC)

- › All features of MR-GiA, except WLC, are available

### Range & Types



MR-Gi  
(Manual version)



MR-GiA  
(Auto version  
with inbuilt WLC)

- › 0.5HP to 3HP

## Spares for MR-Gi



Start  
Switch



Stop  
Switch



Terminal  
Block



MR-GiA WLC  
Spare



Start & Run  
Capacitors



# M-POWER Pro

For Remote Operations with Protection of Your Pump

## Features

- › Ease and convenience in operating pump from anywhere and anytime, through SMS, IVRS, and SMARTCOMM Agri Connect App.
- › Offers protection from phase loss, phase unbalance, phase reversal, over voltage, under voltage and dry run fault with individual protection enable/disable feature.
- › Parameter settings change as per requirement.
- › Easily set & check parameter settings such as pump status (ON/OFF), metering, etc. through the SMARTCOMM Agri Connect App.
- › No additional device is required, M-POWER Pro can be used with a 3 Phase DOL and SD Starters.
- › Prevents dry run fault and protects the pump.
- › Available in Hindi, Gujarati, Marathi, Tamil, Telugu, Kannada, Malayalam, Bengali, Odiya, Punjabi and English.
- › 3 Configurable Timers through Front Panel:
  - › Power ON Delay Timer (30-300 sec)
  - › Star-Delta Timer (2-30 sec)
  - › DRP Reset Timer (30-300 min)
- › Additional timer:
  - › Pump ON timer
  - › Daily ON-OFF timer with 4 time slots per day
- › Five users (1 master and up to 4 users) can control and monitor the starter/controller through their mobile phone with M-POWER Pro.



M-POWER Pro



Technology at your finger tips.  
Explore the **SMARTCOMM** App.

# M-POWER+ / M-POWER++

For Remote Operations of Your Pump

## Features

- › GSM based module for operation of starters and controllers from anywhere using mobile phone.
- › M-Power++ can be used with a 4G VoLTE SIM.
- › Multiple users (1 master and 2 users) can control the starter/controller through their mobile phone with M-Power+/M-Power++.
- › Four different 'time of day' can be set in a day for pump operation.
- › Controls the daily operations of a pump for pre-defined periods.
- › Suitable for Single Phase and Three Phase installation.
- › Configurable timers:
  - › Pump ON timer
  - › Retentive timer (with timer compensation)
  - › Daily ON-OFF timer with 4 time slots per day



M-POWER+



M-POWER++

## Spares for M-POWER range



Wire Type Antenna



Controller-side Wire Harness  
& Module-side Wire Harness

# SMART Pump Controller

## DOL & FASD

### Features

- › Available in DOL and FASD.
- › Built-in theft protection - gives an emergency alert to master's mobile when someone tries to steal your pump, cable or controller. This feature is active for 48 hours even without power.
- › Complete operation (remote ON/OFF and pump status through missed call and IVRS, parameter setting, monitoring and troubleshooting) through SMS or Mobile App.
- › Available in Hindi, Gujarati, Marathi, Tamil, Telugu, Kannada, Malayalam, Bengali, Odiya, Punjabi and English.
- › Voltage and Current based protection along with dry run protection.
- › Microcontroller based technology.
- › Works in all seasons and conditions.
- › Multiple timers can be set in a day.
- › In-built hour based and Real Time Clock based timers with time compensation feature.
- › Short circuit protection with in-built MCB / MCCB.
- › Individual protection Enable/Disable feature.
- › With Line Voltage, Phase Current, Power Factor, Power, Energy metering and total run time information for your pump.

### Range & Types

- › Relay range - DOL upto 20A - 42A ; FASD upto 45A - 90A
- › DOL - upto 6HP to 10HP
- › FASD - upto 15HP to 75HP



MU-GS SMART Controller



Technology at your finger tips.  
Explore the **SMARTCOMM** App.

# Spares for SMART Pump Controller



DOL CT Spare



FASD CT Spare



i-Smart



Battery Pack

## SASDz5

Automate your SASD starter  
With Auto Switch

### Features

- › Protection from phase loss, phase reversal, phase unbalance, over voltage.
- › Power ON Delay timer ranging from 30 sec to 5 min and Star-Delta from 3 to 30 sec.
- › Auto, Manual & Bypass Mode available.
- › Protection in Manual and Auto Mode.

### Types



Variant compatible for  
2 Button (ON/OFF)  
SASD STARTER



Variant compatible for  
3 Button (Star-Delta-OFF)  
SASD STARTER

## Sz5 & SDz5

Single Phase Protection with Auto Restart

### Features

- › Sz5 & SDz5 gives protection from single phase, phase unbalance, and phase reversal faults.
- › Automatic restart with a 30 sec to 5 min time delay.
- › The SDz5 comes with a Star-Delta Timer.
- › Auto, Manual and Bypass Modes are available.



Sz5

SDz5

## Px3000

Solar Drive Controller

### Features

- › With True MPPT (Maximum Power Point Tracking) Technology, Solar Drive Controller ensures the maximum water delivery at various solar energy levels for maximum duration in a day.
- › Auto & Adaptable MPPT.
- › Operated on solar as well as on grid.
- › Auto starts/stops as per Solar irradiance.
- › Robust design to handle high input DC voltage upto 850V.
- › Rugged design, Best in class performance even at 50 degree ambient.
- › Built-in RS485.
- › Plug & Play Drive.

### Range & Types

- › 5HP, 7.5HP and 10HP  
(3 Phase 415V class Induction Motor).
- › Supply Voltage
  - › Grid - 380V - 480V, 3 phase
  - › Solar - Vmp : 250 - 750 VDC  
Voc: 300 - 850 VDC



*Px3000*  
Solar Drive Controller

# MD Starter+

## Start Smart, Stay Protected

### Features

- › Digital Metering.
- › Built-in *i*-PROTECTOR which gives protections from following faults:
  - › Voltage & Current Single Phasing
  - › Under & Over Voltage
  - › Voltage & Current unbalance fault from supply side,
  - › Phase Reversal
  - › Dry-run fault protection (With adjustable current setting and adjustable reset time)
- › Auto/Manual/Bypass mode available.
- › suitable for all starters - upto 40A.

**Note:** *i*-VDSM gives voltage based protection (Except Dry run for which current based protection is given) & *i*-ADSM gives current based protection

### Range & Types

- › MD Starter+ DOL - upto 20HP and relay range upto 28A - 42A.
- › MD Starter+ FASD - upto 30HP and relay range upto 28A - 42A.

### Applications

Agricultural pump application, Agriculture and allied processes, Textile looms, Horticulture, Canal irrigation, High-rise building applications, etc.



MD Starter+

# MCB

## With K- Curve Exclusively for Agricultural Pumps

### Features

- › Easy to switch ON/OFF during maintenance.
- › Longer life than rewirable fuses.
- › Short-circuit tripping band suitable for submersible pumps.
- › Simple to resume supply by switching on MCB.
- › Provides both overload and short circuit protection.
- › Presence of positive isolation indicator features for safety of end user.
- › Trip-free mechanism to ensure maximum safety.
- › True contact indication facility for individual pole.
- › Touch proof terminals.
- › All three/two phases are combined in one unit making the installation process easy.

### Range & Types

- › Range available from 10A to 125A - 3 Pole and 10A to 32A - 2 Pole & 1 Pole.
- › Rated Voltage - 240V/415V AC.
- › Breaking Capacity
  - › 10kA as per IEC 60947-2 upto 63A
  - › 15kA as per IEC 60947-2 upto 100A-125A



2-Pole MCB



3- Pole MCB

# MK1 / MK2 Starters

DOL & Star-Delta Starter  
with Wide Band Coil

## Features

- › Most effective and Reliable Thermal Overload Protection.
- › Suitable in conditions like variable temperature, humidity and voltage fluctuations.
- › Can be connected to Voltage/Current Auto SPPR, Dry run and Remote application devices.
- › Built-in ON/OFF indications.
- › Available with Wide Band Coil.

## Range & Types

- › Relay range- MK1-upto 13A-22A;  
MK2-upto 20A-32A.
- › DOL Starters-upto 7.5HP.
- › Star-Delta Starters (Fully/Semi-Automatic) upto 15HP.

## Applications

Pumps, Aerators, Textile looms and machinery, Agriculture and allied processes, Horticulture, Canal irrigation, etc.



MK1



MK2

# Spares for MK1 / MK2 Starters



MK1 Spares



MK2 Spares



MK1  
Combination Coil



MK1/ MK2 Standard  
Operating Coil



MK1 Contactor



MK2 Contactor



MK1 Relay



MK2 Relay



Timer ST100

# MU / MB Starters

Heavy Duty with  
Wideband Moulded Coil

## Features

- › Heavy duty Contactor and Relay.
- › Wide band moulded coil with 180V to 415V range for 3 Phase applications.
- › Most effective and Reliable Thermal Overload Protection.
- › Suitable in conditions like variable temperature, humidity and voltage fluctuations.
- › Can be connected to Voltage/Current Auto SPPR, Dry run and Remote application devices.
- › MB starters come with in-built single phasing protection.
- › Bigger terminals for ease of termination.
- › Rugged MU-2P contactor for Single Phase application with a Wide Band voltage (160V to 220V) suitable for low voltage.

## Range & Types

- › Relay range upto 28-42A.
- › DOL Starters-upto 17.5HP.
- › Star-Delta Starters  
(Fully/Semi-Automatic)-upto 35HP.

## Applications

Agricultural pump application, Agriculture and allied processes, Textile looms, Wood & Stone cutting, Horticulture, Canal irrigation, etc.



MU/MB Starters

# Spares for MU / MB Starters



MU Contactor



Relay  
Extension Knob



MU1 Relay



MU2 Relay



MU Spare Kit



MU Contact Bridge



MU Spare Housing



MU Coil



Timer ST100

# ML Starters

Reliable & Durable for Generations

## Features

- › Rugged and strong starter.
- › Most effective and Reliable Thermal Overload Protection.
- › Bigger terminals for ease of terminations.
- › Suitable in conditions like variable temperature, humidity, and voltage fluctuations.
- › Can be connected to Voltage/Current Auto SPPR and Remote application devices.

## Range & Types

- › Relay range-upto 20A-32A.
- › DOL Starters-upto 20HP.
- › Star-Delta Starters (Fully/Semi-Automatic) upto 35HP.

## Applications

Agricultural pump applications, Mining applications, Tea garden, Jute industry, Leather industry, Stone crushers, Rice and Dal Mills, Granite polishing, etc.



ML starters

# Spares for ML Starters



ML1.5 Contactor



ML2W Contactor



Standard Operating Coil ML1.5



Standard Operating Coil ML2 / ML3



ML1 Relay



ML2 / ML3 Relay



Spare kit



Timer ST100

# MU-G

## Three Phase Submersible Pump Controller

### Features

- › With Voltmeter and Ammeter and Selector switch.
- › With hinged door for ease of operation.
- › Auto, Manual and Bypass mode.
- › With built-in Auto SPPR for single phasing, phase unbalance and phase reversal.
- › With adjustable ON delay timer (30 sec to 5 min) & Star-Delta timer (3 to 30 sec).
- › Available with Wide Band coil.
- › With Power ON & Motor ON indications.
- › Also available with built-in WLC version (MU-GW).

### Range & Types

- › Relay Range-DOL upto 28A-42A and FASD upto 66A-110A.
- › DOL starters-Available upto 10HP.
- › FASD Starters-Available upto 75HP.

### Applications

Submersible pump application, Residential pump application, Fire fighting pump application, etc.



MU-G Three Phase Submersible Pump Controller

## Spares for MU-G



Terminal Block  
60A-3 Way



Terminal Block  
30A-5 Way



Terminal Block  
100A-3 Way



Rocker Switch



Indicating Lamp  
Red & Green



Volt-Ammeter



Spare  
ON-OFF plug



SPPR Type SDz5



SPPR Type Sz5  
(7 Wire & 6 Wire)

# MR-G

## Single Phase Submersible Pump Controller

### Features

- › Starts, stops & protects your single phase submersible pump.
- › Rugged MU-2P contactor with a Wide Band voltage (160V to 220V) suitable for low voltage.
- › Fitted with MU-2P Relay for reliable overload protection.
- › Available with heavy duty START & RUN condensers.
- › Controller is provided with a unique combination of dual Volt-Ammeter.

### Range & Types

- › Reliable protection for single phase submersible pumps up to 5HP for domestic & agricultural purpose.
- › Types:
  - » With only Ammeters
  - » With Voltmeter & Ammeters (V/A meters)
- › Up to 20 - 32A Relay range.

### Applications

Residential submersible pumps, Commercial hotels, Malls, Hospitals, Construction of buildings, Domestic gardening, etc.



MR-G2

MR-G3

# Spares for MR-G



MR-G Plug ON

MR-G Plug OFF

MR11W Aux. Contact Block

MU - 2P Contactor

MU-2P Top Add-On

MU - 2P Relay

MU - 2P Coil



# Condenser & Capacitors

## Features

### Power factor correction capacitors (kVAR)

- › Self-healing property ensures longer life of capacitor.
- › Leak proof and high viscous resin construction, hence no leakage or spillage.
- › Superior quality Metalized Polypropylene (MPP) film, ingress free construction and low losses ensures capacitance value and longer life of capacitor.
- › Metal construction allows natural cooling in ambient.
- › Improved power factor and low losses ensures optimized cable usage, lesser overheating of motor and hence lesser damage and maintenance.
- › Available in box & cylindrical type from 1kVAR to 30kVAR.
- › Easy to connect & suitable to work on high voltage.
- › Suitable for agricultural pump-sets and small motors.

### MFD Capacitors for Single Phase Application

- › The self-healing property of metalized film ensures the longer life of capacitor.
- › Oil-free dry resin construction, hence, no leakage or spillage and no damage to panel.
- › Superior quality Metalized Polypropylene (MPP) film, ingress free construction and low losses.
- › Suitable to work on high voltage.
- › High insulation resistance ensures minimum leakage loss.
- › Low losses and rated capacitance value ensures trouble free operation and performance of your motor Range:
  - ›› Start capacitor - 80 to 250  $\mu$ F
  - ›› Run capacitor - 10 to 72  $\mu$ F



Power Factor Correction Capacitor

Start and Run Capacitor

# Submersible Flat Cable

Suitable for Submersible Pump-Sets

## Features

### Submersible Cables (Flat Cables) as per IS694

- › 1100V Grade cable.
- › With uniform double insulation, no shock hazard, hence safe to use.
- › Lesser cable resistance, and hence a negligible voltage drop in cable ensures appropriate voltage at motor terminals.



Submersible Cable

# SzLC WLC

## Simplifying Water Control Challenges

### Features

- › Two level detection of water in a tank.
- › One/Two tank monitoring for draining or filling or raining and filling the water.
- › High load switching capacity of output up to 30A. (For SzLC & SzLC1) .
- › Separate LED indication for water level, power, and relay status.
- › Settable power on delay and OFF timer.
- › Multiple operating modes like AUTO/ ON/ OFF (For SzLC) and AUTO/ MANUAL/ BYPASS (For SzLC1 & SzLC3).
- › Protections against dry run and over filling, means trip against tank emptying and over filling through probe sensing only.

### Range & Types

- › SzLC - Monoblock & Self Priming Pump.
- › SzLC1 - Single Phase Submersible Pump.
- › SzLC3 - Three Phase Submersible Pump.



# Water Level Controller

### Features

- › Suitable for one tank as well as two tank application.
- › Suitable for draining or filling of water or any other liquid.
- › 3 / 6 stainless steel sensor probes of 10 cm length.
- › Supports up to 1000m length cable for longer distance probe sensing.
- › Auto / Manual feature available with 240V and 415V.
- › Power ON and relay ON status LED indication.
- › CE & RoHS Certified.



Water Level Controller



# *i*-PROTECTOR

## Digital Protection for Your Pump

### Features

- › Micro controller based protection design.
- › Digital Ammeter & Voltmeter.
- › Auto / Manual / Bypass Mode available.
- › Suitable for all starters.
- › Adjustable ON delay, Dry run threshold, Dry run reset delay and Star-Delta timer.
- › *i*-Protector gives the following protections:
  - › Voltage & Current Single Phasing
  - › Under & Over Voltage
  - › Voltage & Current unbalanced fault from supply side
  - › Phase reversal fault
  - › Dry run fault
- › *i*-ADSM, *i*-VDSM available in 360V, 415V.

**Note:** *i*-VDSM gives voltage based protection (Except Dry run for which current based protection is given) & *i*-ADSM gives current based protection



*i*-VDSM

# DY125U MCCB

## For Your Pump Application

### Features

- › Conforms to IS/IEC 60947-2, IEC 60947-2 & EN 60947-2.
- › Range: 25A to 100A, 3P, 415V AC.
- › Breaking capacity Icu - 10kA (Ics = 100% Icu).
- › High Electrical & Mechanical life.
- › Thermal Magnetic Release.
- › No Load-Line Bias.
- › ON-TRIP-OFF indication.
- › Suitable for Isolation.
- › Rated insulation voltage (Ui) - 800VAC.
- › Rated impulse withstand voltage (Uimp) - 8kV.
- › CE Marking.



DY125U MCCB

