



# SUBMERSIBLE PUMP STARTER WITH DRY RUN PROTECTION 1-PHASE APPLICATIONS

#### Specifications & Features:

- + Range upto 3HP
- ÷ 2-Pole Contactor and 2-Pole relay up to 22-30Amp
- Digital display to show ampere & voltage
- Microcontroller based technology
- Auto Off Timer 1 to 60 Min (Field settable)
- ÷ Fault log (last 10 faults)

#### **Protections:**

- Dry Run 50%, 55%, 60%, 65%, 70%,75%, 80%, 85%, 90% of rated set current (Field settable)
- Overload (Field settable)
- Over Voltage protection Factory set at 265V





#### **MINI MANUAL STARTERS**

Direct On-line manually operated, Mini starters are designed for non-reversing control of all type of squirrel cage motors with an intermittent duty of 15 starts per hour complying with performance requirement of IS 8544 Part I

#### **Specifications & Features:**

- Range available up to 10HP (3PH) & up to 4HP (1PH)
- · Flush and Base Mounting version available
- Trips automatically in low voltage conditions (with UV Coil)
- Prevents motor from restarting when power comes back
- Utilization category AC3 as per IEC 292-1 and IS 8544 Part I
- Insulation voltage 600V
- Thermal rating is 20A Operational current is 16A at 415VAC
- Frequency of operation 15 operations per hour
- Mechanical life 1x10<sup>5</sup> operations
- + Powder coated deep drawn sheet steel enclosure for excellent finish & durability
- Terminal capacity One cable of 6 mm<sup>2</sup> or two cables of 4 mm<sup>2</sup>



Think Starter Think BCH

# NHD CONTACTORS

## NHD 4-Pole & 2-Pole Contactors (TOUGH, RUGGED, RELIABLE)

NHD 4 Pole contactors have definite use with many distinctive features. It is offered with choice of add-on auxiliary contact block with configuration 1 NO + 1NC, 2NO or 2NC

For single phase power control, 2-Pole Power contactor "CPG" type is based on the proven design of NHD 4P contactor, that has enjoyed the confidence of customers across various segments.

#### Specifications & Features:

- Conforms to latest standard IEC 60947-4-1
- 4-Pole NHD Contactor rating 12A,16A, 20A, 25A, 32A & 40A
- 2-Pole CPG Contactor rating 12A,16A, 20A, 25A, 32A & 40A
- ÷ 2-Pole CPGN Contactor rating 16A, 20A, & 25A
- · Compact and Robust Construction using high grade moulding Weld resistant silver alloy contacts
- Encapsulated coil for high withstand capacity
- High Mechanical Endurance: 5 x 10<sup>6</sup> operations
- High Electrical Endurance (AC-3): 1 x 10<sup>6</sup> operations
- Maximum Frequency of operation: 600 operations per hour Standard Coil Voltages (AC): 24V, 48V, 110V, 220-240, 380-415 VAC 50 Hz
- Wide Band 160-220V & 140-240V for 2P Contactors
- Wide Band 275-420V. 310-400V. 230-360V. 260-400V for 4P Contactors
- Auxiliary Contacts: 1NO + INC or 2NO or 2NC options available
- · Spare Coil and Contact Kit available



# **OVERLOAD RELAYS (2-POLE & 3-POLE)**

# **Specifications & Features:**

- 2-Pole relay upto 32A
- 3-Pole relay upto 40A
- CT operated relay from 24A to 600A
- Conforms to latest standard IEC 60947-4-1
- Ambient temperature compensated
- Test button for checking tripping mechanism
- · Field convertible auto /manual reset
- Perfect protection to single phase & three phase motors • Designed to withstand wide fluctuations in agricultural
- applications



# CITATION P AUTO DOL STARTER

Wide Band Coil (190-400V, 275-420V)

Auto/Manual/Manual SPP selector switch

SHAKTI AUTO - START DOL STARTERS

. Heavy duty 20A (AC-3) Contactor with moulded coil

Auto Start with On-Delay (5-10 Sec or 5 Min option)

Specifications & Features:

· Phase reversal protection Phase imbalance protection

Single phasing protection

Range up to 24A relav

- Range available up to 40A relay rating
- Equipped with highly reliable and accurate overload relay for motor protection

÷ Powder coated deep drawn sheet steel enclosure for excellent finish & durability

- Wide Band Coil options 260-400 VAC, 310-420 VAC, 380-415 VAC
- ÷ Separate Terminal Block for incoming & outgoing for easy wiring & component
- · Protects motor from phase failure, phase reversal and phase imbalance
- + Powder coated deep drawn sheet steel enclosure for excellent finish & durability
- Conforms to latest standard IS/IEC 60947-4-1





# CITATION P DOL STARTER

- Range available up to 40A relay rating
- Equipped with highly reliable and accurate overload relay for motor protection
- Separate Terminal Block for easy wiring & component safety
- Wide Band Coil options 260-400 VAC, 310-420 VAC, 380-415 VAC
- Protects motor from phase failure, phase reversal and phase imbalance
- Bigger size Powder Coated Deep drawn Sheet Steel enclosure for excellent finish & durability
- Conforms to latest standard IS/IEC 60947-4-1







### REVERSING DOL STARTERS

#### **Specifications & Features:**

- Range available upto 20HP (relay range 22-30A)
- + Heavy duty 4P NHD Contactor
- ÷ Powder coated deep drawn sheet steel enclosure for excellent finish & durability
  - · Auto manual selection through overload relay



#### **Specifications & Features:**

- Range available upto 3HP (relay range upto 17.4-24A)
- DOL with 2Pole CPG Contactor & 2Pole OLR
- Encapsulated & hermetically sealed coil
- Auto manual selection through overload relay
- Powder coated deep drawn sheet steel enclosure for excellent finish & durability



# 3 Core Flat Cable with XLPE insulation

# **Specifications & Features:**

- Range 1.5-16sq mm
- Use of 99.98% pure ETP copper conductor with 101% conductivity . The operating temperature of XLPE is 90 degree C
- It is covered with extra protection of cores which provide protection wall of sheath
- · Working with extreme voltage fluctuations & higher current carrying capacity

#### 3 Core Flat Cable

#### **Specifications & Features:**

- Range 1.0-120sq mm
- Conforming to IS 694:2010
- Thick sheathed PVC Insulated type cables available

#### CRDFR

### Specifications & Features:

- Range 0.5-6.0sq mm with coil size 90mtr, 180mtr & 270mtr
- Double insulation with Anti rodent PVC
- + Glossy & smooth surface finish

### FR & FRLSH

#### Specifications & Features:

- Range 0.5-300sq mm with coil size 100 mtr.
- Superior Flame retardant characteristics with Low emission of toxic gases

#### MULTICORE CABLE

# **Specifications & Features:**

- Range upto 24 cores with type A PVC
- · Coil size in multiple of 100mtr is available
- ÷ Special PVC formulation for stress free insulation to ensure long life

# MCB (MINIATURE CIRCUIT BREAKER)

#### **Specifications & Features:**

- Rating: 0.5A to 63A
- Poles: SP/SPN/DP/TP/TPN/FP
- Tripping Curve B & C
- Conforms to IS/IEC-60898-1 (6A-63A) Terminal Capacity 35 sq. mm (Cu) & IS/IEC60947-2 (0.5 - 5A)
- IP 20 Degree protection (Finger Proofed terminals)
- · Breaking Capacity 10kA
- Impulse voltage withstand 4 KV
- Suitable for isolation
- · Possibility of bus bar termination at
- both ends

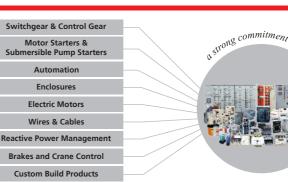


### Also available BCH RCCB's & MCB Distribution Boxes















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# "SHAKTI" STARTERS

Shakti Starter is designed for operation and protection of agricultural pump motors. The starter is housed in a powder coated, deep drawn, sheet steel enclosure, which are resistant to the entry of dust and falling water.

#### SHAKTI & SHAKTI "WP" DOL STARTERS

#### **Specifications & Features:**

- Range Available up to 24A relay rating
- Wide Band Coil available (190-400V, 275-420V & 380-415V)
- Heavy duty 20A (AC-3) Contactor with moulded coil
- Equipped with highly reliable and accurate overload relay for motor protection
- Overload relay Excellent temperature compensation between -10°C and +80°C (+55°C max. ambient)
- Conforms to latest standard IS/IEC 60947-4-1
- Degree of protection IP54



# **SHAKTI STAR - DELTA STARTERS**

#### **Specifications & Features:**

- Range Available up to 24A relay rating in semi and fully Automatic versions
- Wide band coil available (260-400V, & 380-415V)
- Heavy duty 4P 16A (AC-3) Contactor with moulded coil
- Equipped with highly reliable and accurate overload relay for motor protection
- Automatic version with electronic timer for reliable change over from Star to Delta
- Separate Terminal blocks for easy wiring and components safety







### SHAKTI DOL SUBMERSIBLE PUMP STARTERS

#### **Specifications & Features:**

- · Range Available up to 24A relay rating
- Heavy duty 20A (AC-3) Contactor with moulded coil Wide Band Coil available (190-400V, 275-420V & 380-415V)
- Auto Start with On-Delay (5-10 Sec or 5 Min option)
- · Protects motor from phase failure, phase reversal and phase imbalance
- Voltmeter with phase selector switch
- Auto / Manual SPP / Bypass selector switch
- Powder coated Sheet Steel Enclosure for excellent finish & durability
- ÷ Conforms to latest standard IS/IEC 60947-4-1





#### SHAKTI P DOL SUBMERSIBLE PUMP STARTERS

#### **Specifications & Features:**

- Range Available up to 24A relay rating
- Heavy duty 20A (AC-3) Contactor with moulded coil
- Wide Band Coil available (190-400V, 275-420V & 380-415V)
- ÷ Better esthetic look & easy to maintain due to use of Bus Bar
- Auto Start with On-Delay (5-10 Sec or 5 Min option)
- Protects motor from phase failure, phase reversal and phase imbalance
- + Rocker Switch to switch off control supply
- SPP with integrated Auto / Manual SPP / Bypass selector switch
- Powder coated Sheet Steel Enclosure for excellent finish & durability
- ÷ Conforms to latest standard IS/IEC 60947-4-1
- + Degree of Protection IP54









#### "CITATION" DOL STARTERS & INTERIORS

Citation M Direct-on-line Starter meets the need of high reliability in a wide range of applications. They are used for switching AC motors and offer complete motor protection against overloads, single phasing & severe unbalanced voltages.

#### Specifications & Features:

- Range available up to 40 HP
- Selection of manual & automatic resetting of overload relay
- Wide Band Coil from 260-400V & 380-415V
- Equipped with highly reliable and accurate overload relay for motor protection
- ÷ Powder coated deep drawn sheet steel enclosure for excellent finish & durability
- Overload relay Excellent temperature compensation between -10°C and +80°C (+55°C max. ambient)





#### "CITATION" STAR-DELTA STARTERS

Citation M Star Delta Starters are used for controlling AC motors and offer complete motor protection against overloads, single phasing and severe unbalanced voltages in accordance with latest IS/IEC specifications.

#### Specifications & Features:

- Range available up to 375 HP
- Equipped with highly reliable and accurate overload relay for motor protection
- Overload relay Excellent temperature compensation between -10°C and +80°C (+55°C max. ambient)
- Fully-Automatic & Semi-Automatic versions
- Wide Band Coil from 260-400V, 275-420V, 380-415V
- Protects motor from phase failure, phase reversal and phase imbalance
- Selection of manual & automatic resetting of overload relay
- + Powder coated deep drawn sheet steel enclosure for excellent finish & durability
- Conforms to latest standard IS/IEC 60947-4-1









## "CITATION" SUBMERSIBLE PUMP STARTERS -

# **DOL SPS**

### Specifications & Features:

- Available in Economy & Premium versions
- Heavy duty 4 pole Contactor with moulded coil
- Range available up to 40A relay rating
- Equipped with highly reliable and accurate overload relay for motor protection
- Wide Band Coil from 260-400V, 275-420V, 380-415V
- Protects motor from phase failure, phase reversal and phase imbalance
- Short circuit protection (Premium Version)
- Separate Ammeter and Voltmeter
- Voltmeter with voltage selector switch Motor On & Trip indications
- Provision for dry run protection
- + Powder coated Sheet Steel Enclosure for excellent finish & durability
- Conforms to latest standard IS/IEC 60947-4-1
- + Degree of Protection IP54





# STAR DELTA SPS

#### **Specifications & Features:**

- · Available in Economy & Premium versions
- Heavy duty 4 pole Contactor with moulded coil
- Range available up to 135 A relay rating
- Equipped with highly reliable and accurate overload relay for motor protection
- Wide Band Coil from 260-400V, 310-400V, 380-415V
- Protects motor from phase failure, phase reversal and phase imbalance
- Short circuit protection (Premium Version)
- Separate Ammeter and Voltmeter
- + Powder coated Sheet Steel Enclosure for excellent finish & durability
- ÷ Voltmeter with voltage selector switch
- Conforms to latest standard IEC 60947-4-1
- + Degree of Protection IP54





# "CITATION" P SUBMERSIBLE PUMP STARTERS **DOL SPS - P Series**

#### **Specifications & Features:**

- + Range available up to 40A relay rating
- · Heavy duty NHD Contactor with moulded coil
- ÷ Wide Band Coil available (260-400V, 310-420V & 380-415V)
- Equipped with highly reliable and accurate overload relay for motor protection
- ÷ SPP with integrated Auto / Manual SPP / Bypass selector switch
- Protects motor from phase failure, phase reversal and phase imbalance + Better esthetic look & easy to maintain due to use of Bus Bar
- Separate Ammeter and Voltmeter
- + Rocker Switch to switch off control supply
- Motor On & Trip indications
- · Provision for dry run protection
- ÷ Powder coated Sheet Steel Enclosure for excellent finish & durability
- Conforms to latest standard IS/IEC 60947-4-1
- + Degree of Protection IP54





## STAR DELTA SPS - P Series

#### **Specifications & Features:**

- + Range available up to 40A relay rating
- · Heavy duty NHD Contactor with moulded coil
- ÷ Wide Band Coil available (230-360V, 260-400V, 310-420V & 380-415V) ÷ Better esthetic look & easy to maintain due to use of Bus Bar
- ÷ Auto Start with On-Delay (5-10 Sec or 5 Min option)
- Equipped with highly reliable and accurate overload relay for motor protection
- ÷ SPP with integrated Auto / Manual SPP / Bypass selector switch · Protects motor from phase failure, phase reversal and phase imbalance
- Voltmeter with voltage selector switch
- \* Rocker Switch to switch off control supply
- ÷ Powder coated Sheet Steel Enclosure for excellent finish & durability
- Conforms to latest standard IS/IEC 60947-4-1 + Degree of Protection IP54







# SUBMERSIBLE PUMP STARTERS FOR-

# 1-PHASE APPLICATIONS **Specifications & Features:**

- 1-Phase SPS with 2-Pole CPG Contactor and relay up to 23-32Amp (for water cooled submersible pumps)
- 1-Phase SPS with Mini-DOL up to 11-20 Amp relay range (for oil cooled submersible pumps)
- Equipped with highly reliable and accurate overload relay for motor protection
- Wide range of variants to serve the need of all customers Wide band encapsulated coil (160-220V & 170-240V)
- Complete isolation of supply to motor when starter is off.
- Provision for dry run protection
- ÷ Powder coated Sheet Steel Enclosure for excellent finish & durability
- Various combination of Start & Run Capacitors to run all types of Pumps + Degree of Protection IP54





#### **OIL - IMMERSED STARTERS**

This starter has a definite edge over the other brands available in market due to its superior protection and easy maintenance, which have been a matter of concern for the customer so far. BCH Starters address these issues and provide complete peace of mind to the customer & electrician.

# Specifications & Features:

- Range DOL up to 24A Relay range
- Range Star Delta up to 32A Relay range Suitable for low voltage applications
- Equipped with highly reliable and accurate overload relay for motor protection Wide band coil operating voltage (220-400V & 380-415V)
- ÷ Powder coated deep drawn sheet steel enclosure for excellent finish & durability
- Easy replacement of contacts and coil







