

ELECTRICAL PANEL – STAR DELTA STARTER

Product Overview: The Star Delta Starter (PSS-SDS) is a robust and efficient motor starter used for three-phase squirrel cage induction motors. It is designed to reduce the high inrush current during motor starting by initially connecting the motor windings in a star configuration and later switching them to a delta configuration for normal running operation.

This starter provides motor protection, operational reliability, and energy efficiency, making it ideal for industrial and commercial applications with medium to large horsepower motors.

1. GENERAL DATA :-

Manufacturer	Palladium Safety Solutions Pvt. Ltd.
Trade Mark/Brand	“PALEX”
Type	Electrical Panel – Star Delta Starter
Model No.	PSS-SDS



2. TECHNICAL SPECIFICATIONS :-

Input Supply Voltage	440V AC $\pm$ 10%, 50 Hz, 3-phase
Control Supply Voltage	230V AC (Optional : 110V AC / 24V AC)
Motor Power Range	Suitable for 10HP – 75HP motors
Rated Current Capacity	20A to 120A (depending on motor rating)
Starting Method	Star-to-Delta transition (with adjustable timer, 5-30 sec typical range)
Protection Devices	- Thermal overload relay (adjustable) - MCB/MCCB short-circuit breaker
Switchgear Components	- Main Contactor - Star Contactor - Delta Contactor - Timer
Indications	Phase (R,Y,B) lamps, ON lamp
User Controls	- Start push button (Green) - Stop push button (Red) - Reset button
Construction Material	16 SWG CRCA steel, epoxy/polyester powder-coated
Ingress Protection (IP)	IP42
Cooling Method	Natural air-cooled
Dimensions (H x W x D)	450 x 450 x 250 mm
Weight	13kg
Colour	Standard Red
Mounting	Wall – mounted

3. ELECTRICAL CHARACTERISTICS :-

- **Dielectric Strength :** 2.5kV for 1 minute between live parts and earth.
- **Insulation Resistance :** >100 M Ω at 500 V DC megger test.
- **Short-Circuit Withstand :** Up to 10kA (depending on protective device selection)

- **Power Loss (Contactors) :** $\leq 3W$ per pole at rated current.
- **Transition Time (Star to Delta) :** Adjustable (factory set at 10 sec, user adjustable 5-30sec)

4. MECHANICAL CHARACTERISTICS :-

- **Enclosure Material :** Cold Rolled Close Annealed (CRCA) steel
- **Sheet Thickness :** 16 SWG (1.6mm)
- **Surface Treatment :** Seven-Tank phosphating process with powder coating for corrosion resistance.
- **Operating Temperature Range :** -10°C to +55°C
- **Storage Temperature Range :** -20°C to 70°C
- **Relative Humidity :** Up to 95% RH, non-condensing
- **Mounting Arrangement :** Wall-mounted with robust brackets
- **Cable Entry :** Gland plate provided at bottom/top with knockouts.

5. FEATURES :-

- Operates on 440 V AC, 50Hz three-phase supply
- **Indications :** R (Red), Y (Yellow), B (Blue) phase lamps and ON indication
- **Protection :** Integrated overload relay and short-circuit breaker (MCB/MCCB)
- **Operation Mode :** Fully automatic (with timer-controlled transition) and manual (selector switch)
- **User Interface :** Push buttons for Start, Stop, and Reset
- **Construction :** Rugged 16 SWG CRCA sheet steel enclosure with powder coating
- **Installation :** Wall-mounted with pre-drilled mounting holes
- **Performance :** High efficiency, long service life, and easy maintenance

6. SAFETY & PROTECTION :-

- **Overload & Protection :** Adjustable thermal overload relay
- **Short-circuit Protection :** MCB/MCCB as per motor rating
- **Phase Protection :** Phase failure and imbalance protection (optional)
- **Earth Leakage Protection :** Optional ELCB/RCB can be integrated
- **Emergency Stop :** Available on request

7. APPLICATION :-

- **Industrial :** Pumps, compressors, conveyors, crushers, textile machinery
- **Commercial :** HVAC systems, lifts, escalators, water supply systems.
- **Agricultural :** Pump sets, irrigation motors
- **Utility :** Water treatment plants, power distribution, heavy machinery start-up

8. WARRANTY :-

12 months from the date of supply against manufacturing defects.

PALLADIUM SAFETY SOLUTIONS PVT. LTD.

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