

S-75

Field Installation Manual

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IMPORTANT INSTRUCTIONS

ATTENTION: After completing the installation and testing, it is essential that this booklet is drawn to the attention of the person responsible for its future operation and maintenance and is available for ready reference all the time.

FAILURE TO READ AND FOLLOW ALL INSTRUCTIONS CAREFULLY BEFORE INSTALLATION & OPERATION WILL VOID WARRANTY OF S-75 AND COULD CAUSE SERIOUS PERSONAL INJURY, FIRE HAZARD & ELECTRIC SHOCK MAY LEAD TO DEATH.

CAUTION:

To prevent electric shock, disconnect electric power to system at main fuse or circuit breaker box until installation or rework is complete.

PRECAUTION:

Do not use on circuits exceeding specified voltage.

Do not short main terminals to test.

Electrical Installation and all components of the installation must be UL listed / UL approved and as per NEC code.



WARNING

Celec manufactured component parts that can be used in a wide variety of industrial & commercial applications. The selection and application of Endelos products remains the responsibility of the equipment designer or end user. Celec accepts no responsibility for how its products may be incorporated into final design. Under no circumstances should any Celec product be incorporated into any product or design as the exclusive or sole safety control, all controls should be designed to dynamically fault defect and fail safety under all circumstances. Any warning provided by Celec must be passed through to the end user. Celec offers a warranty only as to the quality of its product to confirm to the catalog specifications. No other warranty is offered. Celec assumes no liability for any personal injury, property damage, losses or claims arising out of the misapplication and Non performance of its products.

PRODUCT SPECIFICATIONS



Model: **S-75**
Rated Voltage..... **208V AC /240 V AC**
Phases..... **3**
Rated Frequency..... **60Hz**
Maximum Current..... **208/238 Amp per phase**
Maximum kVar..... **75/99**
Maximum Ambient Temperature..... **40°C**
Enclosure..... **Type 1**

Terminals	Wire Size	Connection Type	Torque N-m (Lb-in)
T1	2x1/0 AWG PER PHASE FOR 208 V AC 2x2/0 AWG PER PHASE FOR 240V AC	Circuit Breaker (Use compression lugs AC)	31 (274)
T2	18-22 AWG, Str.	CT Terminal Block	0.5 (7)
Earthing Terminals	02 AWG, Str.	Bonding	15 (133)

UNPACKING

1. Un Pack the S-75 from box using Plastic Strip Cutter & 17 No. Spanner.
2. Collect the Accessories as per the Packing Slip.
3. Remove any cardboard or thermocol packing inside the S-75 given for support during transportation.
4. Do not use S-75 in case of any Breakage or loose connections or Oil Spill inside.

MOUNTING

CAUTION: - Indoor Use Only, Type-1 Enclosure.

1. Choose the dry and Clean Floor to Install the S-75 taking care conduit connections from Right side . Enclosure Size is 1000 x 1400* x 300 mm and weight 161kg.
2. Fix the panel on floor or wall with appropriate sized fasteners.

* **Height with Feet 1500mm**

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Connection Type # 1

Use this instruction

If 400 Amp circuit breaker is available in customer Main Breaker Panel.

S-75 is designed for use with Main Breaker Panel Three Phase 208/240 V AC WYE/Delta Connection, up to 1000 Ampere. (2000 Ampere against request)

S-75 unit should be mounted with four appropriate sized fasteners before connect to Main Breaker Panel.

1.1 Power Connections

- 1.11 Using panel key open the door of S-75 exposing connections.
- 1.12 Locate Earth Terminal in S-75, connect the earth wire to S-75 Earth Terminal. Connect the other side of earth wire to main breaker panel ground rod. Ensure all mechanical connections are secure and making full contact.
- 1.13 Locate existing 3 Pole 400 Amp Circuit Breaker in the Main Breaker Panel.
Connect the wire L1 to Phase 1 of 400 Amp circuit breaker.
(b) Connect the wire L2 to Phase 2 of 400 Amp circuit breaker.
(C) Connect the wire L3 to Phase 3 of 400 Amp circuit breaker.
- 1.14 Qualified Representative must inspect size of cable minimum 300 Kcmil.(Copper)
- 1.15 Connect power cables to circuit breaker of S-75.

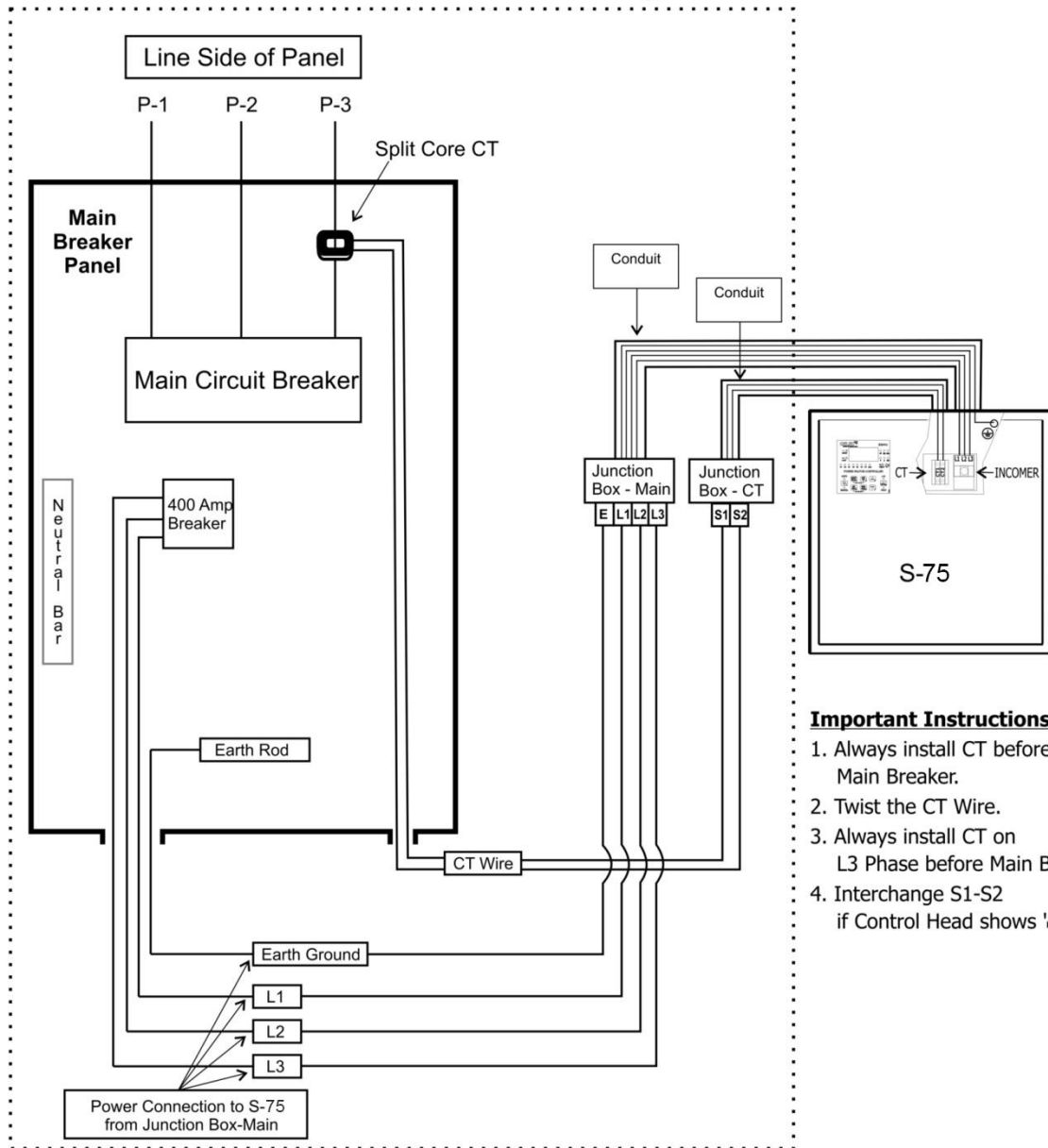
1.2 Current Sensor Connections

- 1.21 Open one side of Split CT (Current Sensor). Clip the CT on the wire L3 before main Circuit Breaker Panel.
- 1.22 Locate Terminal Block T2 (S1-S2) in S-75.
- 1.23 Qualified Representative line side of Main Panel should connect the wires 18-22 AWG from external CT to T2 (S1-S2), preferably twisted together.
- 1.24 Firmly secure current sensor to line side (L3) of main circuit breaker.

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Connection Diagram



Important Instructions:

1. Always install CT before Main Breaker.
2. Twist the CT Wire.
3. Always install CT on L3 Phase before Main Breaker.
4. Interchange S1-S2 if Control Head shows 'L-E'.

Note:

- All Components used for installation must be UL listed or UL recognized.
- Earth Terminal in S-75 must be connected to Panel earth rod.
- All external connections and additional work must be performed by qualified representative in accordance with NEC.
- Failure to comply will void warranty.

Figure-1

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Connection Type#2

Use these instructions

If 400 Amp circuit breaker is unavailable, existing blanks are available.

S-75 unit is designed for use with Customer Main Breaker Panel Three Phase 208/240V AC WYE/Delta Connection, up to 1000 Ampere. (2000 Ampere against request)

S-75 units should be mounted with appropriate sized fasteners before connect to Main Breaker Panel.

1. Using panel key open the door of S-75 exposing connections.
2. Remove existing 3 Pole breaker blanks and install new 3 Pole 400 Amp circuit Breakers.
3. For rest of connection follow the Connection type#1 on page 5.

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Connection Type#3

Use this instruction

If 400 Amp circuit breaker is unavailable and require a new disconnect switch or other approved device.

S-75 unit is designed for use with Customer Main Breaker Panel Three Phase 208/240V AC WYE/Delta Connection, up to 1000 Ampere. (2000 Ampere against request)

Representative must purchase 400 Amp Blade-Fused Disconnect Switch or 400 Amp Circuit Breaker for connection of S-75 to Customer Main Breaker Panel.

1. Install new 400 Amp Blade-Fused disconnect or External Circuit Breaker switch to wall or existing backboard. Qualified Representative should note if codes allow for direct connection to bus bars in main breaker panel or requires installation of an additional sub panel.
2. Wire in rigid conduit between customer main breaker panel & external disconnect switch.
3. Locate earth ground connection in S-75 and connect to grounding bar or to earth ground rod in main breaker panel.
4. For rest of connection follow the Connection type#1 on page 5.

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Electrical Data Sheet

Model	S-75
Phase Configuration	Three Phase 208V AC WYE/Delta/240V AC
Maximum Line Voltage	240V AC
Maximum Power	75/99 kVar
Steps	10
Monitoring	PF, kVA, kVar, Volt, Current, KW, %THD-V Internal Temperature & Capacitor Status
Accuracy	2.94/3.88 kVar
Frequency	60Hz
Protection	Capacitor Inbuilt Protection P2, capacitor short circuit 10,000A Capacitor over current protection.
Equipment Protection	Internal design has adequate clearance and creepage distance against line transients. MOVs not required.
Circuit breaker Required	400 Amp 3 pole
Low Losses	1.5 Watt each step
Human Protection	All High voltage shielded from contact.
Operating temperature range	40°C Ambient
Dimensions(W X H X D)	(1000 x 1400 x 300 mm) Metal Enclosure Type 1
Operating Life	Switching tested up to 25,000 times,
Dielectric Strength	Tested up to 3.5 kV, 1.42 kV for 1 min.
Wire Gauge & Rating	2x1/0 AWG CU/2x2/0 AWG CU for Power, 18-22 AWG Str for CT, 8 AWG for Bonding
Unit Weight	161kg

***Height With Feet 1500mm**

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Recommended Parts List

Item	Make	Part No.	Qty.
Main Wire 2x1/0/2x2/0 AWG CU	Any *	UL1015	As required
CT Wire 18-22 AWG Str. 600v	Any *	UL1015	As required
Bonding Wire 2 AWG Str. 600v	Any *	UL 1015	As required
CT (Current Sensor)	Megnelab	SCT-1250-1000	1
Foundation Bolts	Any	---	4
Conduit Connector	Any *	---	As required
Tube/Conduit	Any *	---	As required

***All the Parts used in installation must be UL recognized or UL listed.**

NOTE

Installation of material and workmanship at the customer's Main Breaker Panel shall be the responsibility of the qualified Electrician in accordance with NEC. Any and all connections exterior to the S-75 unit shall be the responsibility of the qualified Electrician.