

| RMA Number | Service Ticket Number |
|------------|-----------------------|
| | |



INSTRUCTIONS:

No returns are accepted without an RMA number issued by Phase Technologies.

NOTE: This form is only for ES & SD Series products

Part numbers: ES3R, SD002, SD003, SD005 (or SD202, SD203, SD205 previous models)

Please use the MAIN RMA FORM for all other products

Shipping Address: Phase Technologies
222 Disk Drive
Rapid City, SD 57701
605-343-7934

CUSTOMER INFORMATION

Contact Name:

Phone:

Email:

Same As Bill To Address

Bill To:

Company Name

Address

Building / Suite #

City

State Zip Code

Ship To:

Company Name

Address

Building / Suite #

City

State Zip Code

Contractor Name:

Installation Date:

PRODUCT INFORMATION

Select the product you are returning (one product/serial number per form)

| | | | |
|-------------------------------------|------------------------------|--|-----------------------------|
| <input type="radio"/> ES3R | <input type="radio"/> ES3R-A | <input type="radio"/> SD002 | <input type="radio"/> SD003 |
| <input type="radio"/> SD005 | <input type="radio"/> SD202 | <input type="radio"/> SD203 | <input type="radio"/> SD205 |
| Serial Number: <input type="text"/> | | Reference Number: <input type="text"/> | |

CONDITION OF UNIT

Installed

New Unit (never installed)

REASON FOR RETURN

| | | |
|---|---------------------------------------|---|
| <input type="radio"/> Warranty credit consideration | <input type="radio"/> Shipping error | <input type="radio"/> Non-warranty inspection (\$50 PO required) |
| <input type="radio"/> Stock no longer needed - overstock (Restocking fees apply) | <input type="radio"/> Shipping damage | |

NOTE: The "ES-SD202-205 Inspection Form" must be submitted with this RMA request to receive an RMA number for warranty consideration.

Your Signature: _____

Date: _____



ES Series & SD Series Inspection Form

A copy of this form and your RMA request form will need to be enclosed with any products being returned for evaluation.

This form must be completed if an ES Series or SD-series 2 HP, 3 HP, or 5 HP is being returned to Phase Technologies for warranty consideration. ****This form must be submitted with your RMA request to receive an RMA to return products.**

Basic Information

Distributor: _____ Location: _____

| | | | | |
|----------------------|---------------------------------|---------------------------------|---------------------------------|--|
| Select Model Number: | <input type="checkbox"/> ES3R | <input type="checkbox"/> ES3R-A | <input type="checkbox"/> SD002R | Serial Number: <i>Only one model/serial number per form</i> |
| | <input type="checkbox"/> SD003R | <input type="checkbox"/> SD005R | <input type="checkbox"/> SD202R | |
| | <input type="checkbox"/> SD203R | <input type="checkbox"/> SD205R | | |

| | | |
|--------------------|---------------|------------------|
| Installation Date: | Failure Date: | Evaluation Date: |
|--------------------|---------------|------------------|

Contractor/Company:

Basic Failure Description:

Installation Assessment

- Is branch circuit protection provided to the drive by an *appropriately sized* fuse or circuit breaker? Fuse/Breaker size: _____ A Yes No
- Are the input wires sized between 6 AWG and 20 AWG and rated to at least 75°C and 600V? Input wire size: _____ AWG Yes No
- Are the output wires sized between 6 AWG and 20 AWG and rated to at least 75°C and 600V? Output wire size: _____ AWG Yes No
- Has the incoming power been verified (L1 to L2, L1 to ground, and L2 to ground) to be between 200V and 260V?
L1-L2: _____ V L1-ground: _____ V L2-ground: _____ V Yes No

If the answer to any of the above questions was NO, correct the installation and reassess.

Physical Evaluation

- Is the enclosure dented or otherwise damaged? Yes No
- Are the circuit boards discolored, burned, or otherwise damaged? Yes No
- Is any of the wiring loose or discolored? Yes No
- Are there signs of any obstructions inside the drive? (dirt, weeds, lizards, spiders, etc) Yes No

If the answer to any of the above questions was YES, take pictures of the observed damage and send to Phase Technologies for consideration before returning the product. **If the damage appears to be from abuse of the product or due to external conditions (i.e. a power surge), warranty will be denied.** If there is obvious circuit board or wiring damage, do NOT proceed with the functional evaluation.

Functional Evaluation

Wire the uninstalled drive to 120V single phase power via the L1 & L2 terminals. Flip dip switch 1 on the control board to the "ON" position to allow the drive to utilize 120V power.

1. Does the drive power on? Yes No
2. Is the display functioning correctly (backlight on, text displayed clearly and not jumbled)? Yes No
3. Access the READ MEASURED VALUES menu. Does the *BUS CAP VOLTAGE* read between 160V to 180V (assuming drive is connected to 120V power)? Yes No

Functional Evaluation continued

If the answers to 1-3 are YES, access the fault log. Press the HOME button and then press the UP arrow until FAULT LOG appears. Press ENTER to access the list of faults. For questions 4-11, check NA if the indicated fault(s) have not been recorded OR if the indicated fault(s) have been resolved (old history).

4. OUTPUT FAULT or OUTPUT OVERLOAD
Is there a short circuit or fault on the output lines / load / motor circuit? Or, is there a relay installed in the motor circuit? NA Yes No
5. LOW INPUT VOLTAGE or HIGH INPUT VOLTAGE
See Question 4 under Installment Assessment. Is the incoming power below 200V or above 260V? NA Yes No
6. OVER TEMPERATURE
Are there obstructions around the ventilation openings or fans, or has the ambient temperature for the drive exceeded 50°C (122°F)? NA Yes No
7. SENSOR FAULT, SENSOR CONNECTION FAIL, or ANALOG 20Ma FAULT
Power off the drive. Uninstall the pressure transducer (if not already done). Install a 10 kΩ resistor between control terminals I1+ and I1-. Power the drive back on and access the READ MEASURED VALUES menu. Does *I_{4-20mA IN}* value read between 13 mA to 17 mA? NA Yes No
8. MOTOR OVERLOAD
Is the OVERCURRENT LIMIT set unrealistically low versus the motor nameplate limit? NA Yes No
OVERCURRENT LIMIT: _____ A
[Defaults: 9 amps SD202 / 11 amps SD203 / 18 amps SD205]
9. CURRENT UNBALANCE
Is the CURRENT UNBALANCE set to an excessively low value? NA Yes No
CURRENT UNBALANCE: _____ %
10. DRY WELL KW or DRY WELL CURRENT
Are the dry well parameters set to excessively high values? NA Yes No
DRY WELL KW: _____ KW [Default: 0 KW]
DRY WELL CURRENT: _____ A [Default: 0 amps]
11. AUX1 Latch Fault or AUX2 Latch Fault
Are the SYSTEM CONFIG, AUX1 SELECT, and AUX2 SELECT set incorrectly? See Table 5-4 in Product Manual. NA Yes No
SYSTEM CONFIG: _____ [Default: 1 or 0]
AUX 1 SELECT: _____ AUX 2 SELECT: _____ [Default: 1]

Functional Evaluation continued

If any of the answers to 4-11 are YES, adjust the appropriate setting (if possible) and/or correct the potential causes for the fault. Reassess the drive functionality.

12. If the issue related to constant pressure control, review Section 7.2 Troubleshooting Constant Pressure Systems in the Product Manual. Are any of the various Operating Parameters set inappropriately? NA Yes No

MODE: AUTO MAN OFF [Default: AUTO]

MIN FREQUENCY: _____ Hz [Default: 30 Hz]

MAX FREQUENCY: _____ Hz [Default: 60 Hz]

SUBMERSIBLE PUMP: YES NO [Default: YES]

PROPORTIONAL GAIN: _____ [Default: 5]

INTEGRAL GAIN: _____ [Default: 12]

Fault Log History:

| Fault | Date | Time |
|-------|------|------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Evaluation Performed By: _____ Date: _____

Return the drive to the customer with the inspection findings if the failure is not due to defects in material or workmanship. **Be sure to flip dip switch 1 back to the "OFF" position.**

If the answer to any of the above questions was NO or if the drive is still not functional after addressing any potential problems identified during this inspection, return to Phase Technologies is approved. Please complete the RMA Request Form to receive authorization to return this drive.

https://www.phasetechnologies.com/downloads/RMAForm_09242019_v5_FILLABLE.pdf

To request and RMA, send completed inspection form and RMA to: RMA@phasetechnologies.com

If further assistance is required, please call Phase Technologies at 866.250.7934 or email service@phasetechnologies.com



Warranty Process for ES Series & SD-Series Drives

ES Series & SD Series (up to 5HP) models only

1. Verify the drive is still within its warranty period. (3) years from Purchase Date
2. Complete the ES/SD Inspection Form. The goal of this form is to identify and resolve common non-warranty issues.
3. Complete the RMA Request Form (available at www.phasetechnologies.com/service).
4. Email the completed Inspection Form and RMA Request Form to RMA@phasetechnologies.com. Once your request is approved, an RMA (Return Materials Authorization) will be provided to you.
5. Package the defective drive along with a copy of the approved RMA and the completed Inspection Form. Write the RMA number clearly on the outside of the box or on the shipping label. **Do NOT include a pressure transducer with the return shipment**; defective pressure transducers should be handled separately.
6. Within 15 business days of receiving the defective drive at Phase Technologies, any credit due will be issued.
7. In the event a drive is sent back to Phase Technologies without an RMA/Inspection Form, a \$50 inspection fee will be assessed.
8. Products found warrantable will be eligible for credit of the purchase price.
9. Products found non-warrantable will be returned as is, repaired with accompanying purchase order, or discarded at your discretion.

To aide in the inspection of your equipment, these are the reasons most warranties are denied.

Please evaluate equipment thoroughly before returning to Phase Technologies.

- Product has been abused or damaged for reasons unrelated to materials or workmanship of the drive (i.e. water damage, lightning strike / power surge, physical abuse, etc.)
- The product was not found to be defective upon receipt and evaluation by Phase Technologies. Possible reasons for operational issues not related to the drive include:
 - Faults caused by improper programmable settings
 - Failure due to application / installation conditions (i.e. insufficient incoming power, improper wire sizing, etc.)
- Defective pressure transducer (defective pressure transducers may be evaluated for warranty coverage *without* uninstalling and returning the VFD)