

# Three Phase Platinum

## Troubleshooting Guide



### Model Numbers

CRQ2-16AT / ERQ2-16AS  
CRQ3-18AT / ERQ3-18AS  
CRQ5-21AT / ERQ5-21AS  
CRQ5-24AT / ERQ5-24AS

**IMPORTANT NOTE:**

Please read this manual carefully before installing or operating your air conditioning unit.


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## 01. Fault Finding Guide

| FAULT                                     | POSSIBLE CAUSES  | REMEDIES  |
|---|--|---|
| <b>The system does not start.</b>         | Built-in safety timers have been activated.  | Ensure that 5 minutes has passed from turn on time.   |
|   | A breaker has turned OFF or a fuse has blown.  | Check breakers and fuses.   |
|   | The thermostat set point is incorrect.   | Check the wall control settings are correct. Check the “set point” is set low enough for cooling or high enough for heating.  |
|   | The master wall controller timer setting is incorrect.   | Check the wall controller timer settings. See Operating Instructions section.   |
| <b>Air does not flow (Indoor unit).</b>   | Zones might be switched off.   | Check zones are switched on.  |
|   | During heating operation, the hot start function may have been activated.  | During heating operation, the indoor fan is delayed for 46 seconds or until the indoor coil reaches 24°C (whichever occur first). This is to prevent cold drafts. Wait for 46 seconds and the air will start flowing. |
|   | During defrost of the outdoor coil in heating operation; the indoor fan will not operate for several minutes. (The wall controller will display Defrost symbol  in the top left-hand of the screen status bar. This Defrost symbol will be seen on all screens). | This is normal operation during the defrost cycle to prevent cold air being blown into rooms.   |
| <b>Cooling/Heating is not sufficient.</b> | The cooling/heating function may not work effectively when the return air filter is clogged with dust and dirt.  | Clean the return air filter.  |
|   | The cooling/heating function may not work effectively if the air inlet and air outlet on the outdoor unit are blocked.   | Make sure the air inlet and air outlet on the outdoor unit is not blocked. Check that the area around the outdoor unit is free from obstructions that may cause the airflow to recirculate.                           |
|   | The airflow across the indoor coil may not be enough and the anti-freeze protection or over heat prevention systems can lower the cycle capacity for the unit  | Reduce the total static pressure on the indoor fan to increase airflow. For example increase duct sizes, reduce tight duct work bends or increase return air grille size.   |
|   | The cool/heat load is too great for the air conditioner.   | Perform a heat load analysis on the conditioned space. You may need to consider upgrading your air conditioner with a larger system.  |
|   | Open windows or doors will cause inefficient operation.  | Close windows and doors in conditioned areas.   |
|   | Appropriate zones not turned on.   | Turn on appropriate zones (if applicable).  |
|   | The outside temperature is beyond the air conditioner design conditions.   | If you know an extreme day is coming turn the air conditioner on a few hours before ambient temperatures reach extreme. This should help on those few extreme days.   |
|   | You may be trying to operate the whole house on Auto Fan Mode.   | Change fan mode to constant HIGH fan speed. This increases the total fan speed. This will boost fan capacity.   |

| FAULT  | POSSIBLE CAUSES   | REMEDIES  |
|--|---|---|
| <b>Steam emitted from outdoor unit.</b>  | This is caused by the defrosting operation of the outdoor units heat exchanger in heating operation in cold ambient conditions.   | This is normal during the defrost operation in cold ambient conditions.   |
|  | Condensation of water on the outdoor coil during heating operation.   | This is normal during heating operation. You can purchase drip trays to contain then drain this excess water.   |
| <b>Set temperature cannot be adjusted.</b>   | The zone control set temperature limits are being exceeded.   | Check the upper and lower temperature limits are set correctly. See operation manual for details on setting upper and lower temperature limits.   |
| <b>Occasional hissing noise can be heard on heating cycle.</b>   | This is the sound of the gas changing direction as de-ice cycle begins.   | This is a normal function of an air conditioner. The unit is removing any ice on the outdoor unit.  |
| <b>The compressor is running but the system is not cooling.</b>  | You are in heating mode.  | Check the temperature settings.   |
|  | The reversing valve has jammed between heating and cooling.   | Replace reversing valve.  |
| <b>The outdoor coil keeps freezing over.</b>   | Outdoor coil sensor might be faulty. See sensor (temperature/resistance) table and check resistance value.  | Replace faulty sensor.  |
|  | May have obstruction in outdoor coil.   | Remove obstructions.  |
| <b>There is only one condenser fan working.</b>  | The fan is faulty. Test the fan motor for correct voltage, check motor winding resistance, open circuit, check capacitor, etc.  | Replace faulty fan. If the fan motor needs to be replaced and there is no one available immediately, then just disconnect the fan electrically and cover the faulty motors fan guard. This way the unit can still operate at reduced capacity using 1 fan until you get a replacement fan motor.  |
| <b>The system is short on gas. You have fixed the leak and want the system to operate at 100% so gas charge can be corrected. What can you do to ensure 100% compressor operation?</b> | You can adjust your wall controller temperature so you have a large differential. This will operate at the system at 100% till the temperature gets to within 4°C of the set point. | Select Cooling or heating mode. If cooling adjust set-points more than 4°C lower than room temp. If Heating adjust set-points more than 4°C higher than room temp. Complete charging procedure until finished.<br><br>It is recommended to run QUE test mode (cool or heat test). This can be found in the test menu in the technical menu of the QUE master control. |
| <b>The indoor unit gives out odour</b>   | This happens when smell of the room, furniture, or cigarettes are absorbed into the unit and discharged with the airflow.   | If this happens, we recommend you to run the air conditioner on cooling for a period of time with the doors and windows open or have the indoor unit washed by a technician. Consult the installer from whom you bought the air conditioner.  |
|  | Check the drain is not piped into the sewerage drain line.  | Re-pipe drain with a P-Trap and connect into household drainage or storm water drain.   |

## 02. EC Fan Troubleshooting

| FAULT  | SEQUENCE OF EVENTS  | POSSIBLE CAUSES   | REMEDIES  |
|--|---|---|---|
| <b>Airflow hunting during AUTO and Self Learn Mode.</b>  | Indoor fan will intermittently “huff”.  | Excessive static in duct work.  | Reduce static where possible.<br>Review duct design with reference to ActronAir design guidelines (Service Manual, Section 23).                                     |
| <b>Too much airflow when minimum zones are on.</b>       | Air is blowing too much when in minimum zones.  | Fan not set to Auto Mode.   | Change fan setting to Auto Mode   |
|  |   | Duct design is not air balanced correctly.  | Adjust the duct design to air balance correctly.  |
|  |   | Minimum duct and outlet sizes requirements not followed.  | Check versus ActronAir guidelines and adjust/change if necessary.<br>Review duct design with reference to ActronAir design guidelines (Service Manual, Section 23). |
| <b>Auto Mode is not available.</b>                       | When scrolling through fan speeds, Auto Mode is not selectable.   | During commissioning, Self-Learn mode was not activated.  | Carry out self learn mode. See additional operating instruction.  |
|  |   | Self learn failed during commissioning.   | Ensure that the air is balanced correctly (static may be too low).<br>Review duct design guidelines (Service Manual, Section 23).                                   |
| <b>Low airflow during Auto Mode</b>                      | System produces reduced airflow on Auto mode when all or minimum zones are on.  | System capacity has been designed to heat/cool only selected areas of the conditions space at any one time. | Operate indoor fan on Low/Med/ High speed to achieve more airflow.  |
|  |   | Excessive static in ductwork.   | Reduce static where possible.<br>Review duct design with reference to ActronAir design guidelines (Service Manual, Sec.23).   |
| <b>Indoor fan not changing speeds when in Auto Mode.</b> | When zones are switched to the off position, or as the damper position of active zones close (VAV zones only), airflow to active zones does not reduce. | There is insufficient static within the duct design of the active zones.                                    | Review duct design with reference to ActronAir design guidelines (Service Manual, Sec. 23).   |
|  | When zones are switched to the on position, or as the damper position of active zones open (VAV zones only), airflow to active zones does not increase. | There is excessive static within the duct design of the active zones.                                       | Review duct design with reference to ActronAir design guidelines (Service Manual, Sec. 23).   |

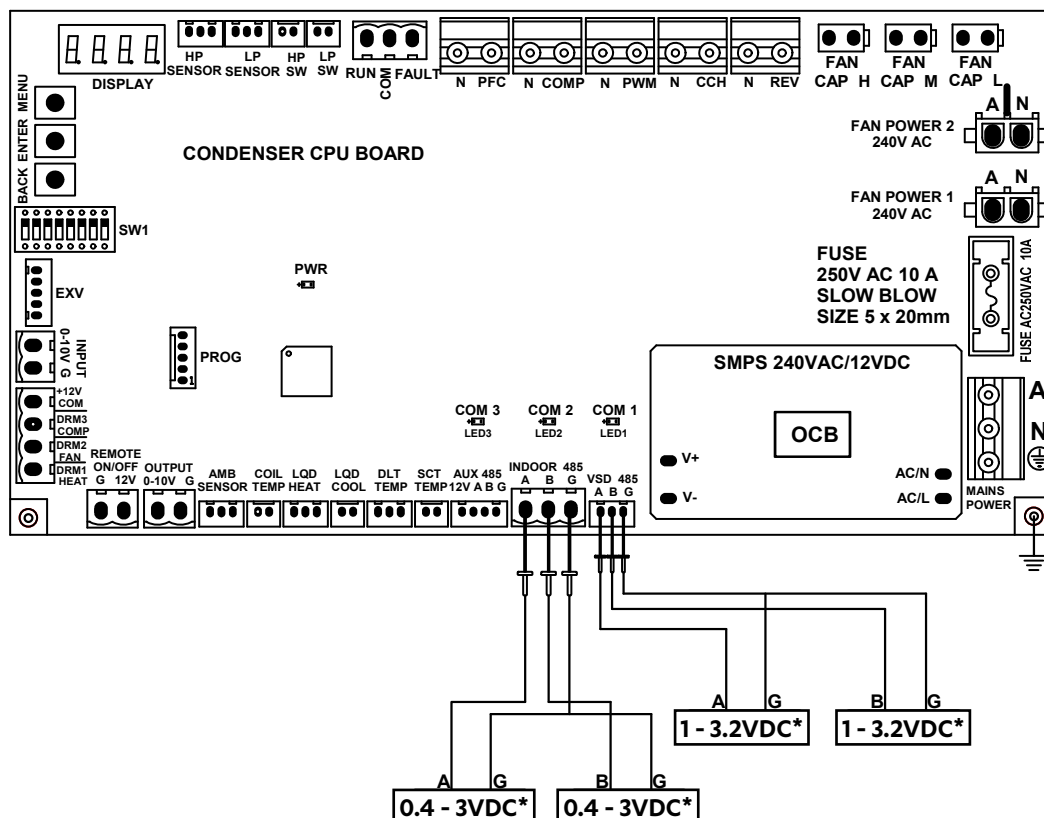
| FAULT   | SEQUENCE OF EVENTS   | POSSIBLE CAUSES  | REMEDIES   |
|---|--|--|--|
| <p><b>Indoor fan not changing speeds when in Auto Mode.</b></p> | <p>When zones are switched on or off, or as the damper position modulates between the open and closed position (VAV zones only) of active zones open, airflow to active zones does not increase.</p> | <p>The indoor PCB is not changing the fan PWM to adjust the fan speed.</p> | <p>Check the output PWM from indoor PCB. An increase in fan speed should result in an increase in the fan % PWM (duty cycle). Refer to table below test points expected voltages. To determine if the system may be suffering from excessive or insufficient static, check PWM and RPM values through the indoor unit dashboard on the Master Wall Controller:</p> <ul style="list-style-type: none"> <li>• If the RPM is at its maximum value and the PWM has not reached its requested value, this indicates a high static. (Please refer to RPM Limits on next page)</li> <li>• When switching off zones and there is little or not change in the RPM value, this indicates insufficient static within remaining active zones duct work.</li> </ul> |

## 03. Expected Voltage

### NOTES

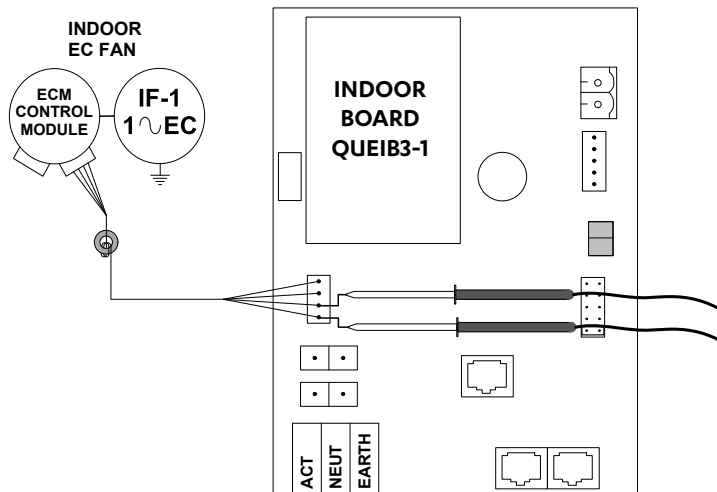
If COM1 (LED1) and COM2 (LED2) are blinking, communication is happening.

\* Voltage sending between A-G and B-G are fluctuating, this means that the communication is happening.



### 04. To check Output PWM in Indoor PCB

| UNIT MODEL | EXPECTED PWM % (APPROX) |        |      |
|------------|-------------------------|--------|------|
|            | LOW                     | MEDIUM | HIGH |
| ERQ2-16AS  | 49                      | 66     | 86   |
| ERQ3-18AS  | 62                      | 85     | 100  |
| ERQ5-21AS  | 42                      | 59     | 80   |
| ERQ5-24AS  | 44                      | 61     | 81   |

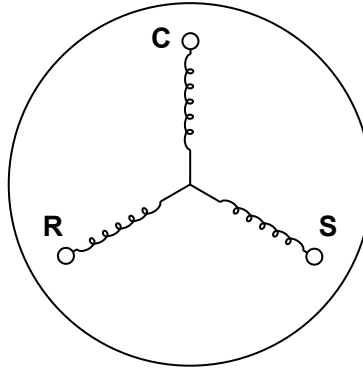


1. Set the tester to measure duty cycle.
2. Measure the reading across PIN 3 and 4 (blue and yellow wires).
3. Change fan speed and check for any changes in readings.

### 05. RPM Limits

| UNIT MODEL | RPM LIMITS |        |      |
|------------|------------|--------|------|
|            | LOW        | MEDIUM | HIGH |
| ERQ2-16AS  | 1150       | 1290   | 1500 |
| ERQ3-18AS  | 1150       | 1290   | 1500 |
| ERQ5-21AS  | 1150       | 1290   | 1500 |
| ERQ5-24AS  | 1150       | 1290   | 1500 |

**06. Compressor Winding**



**COMPRESSOR WINDINGS  
SINGLE PHASE**

| UNIT MODEL | COMPRESSOR PART NUMBER/MODEL | RATING OF COMPRESSOR WINDINGS (OHMS) |       |       |
|------------|------------------------------|--------------------------------------|-------|-------|
|            |                              | C - S                                | C - R | S - R |
| ERQ2-16AS  | ZPV038LE-4X9                 | 0.521                                | 0.521 | 0.521 |
| ERQ3-18AS  |                              | 0.521                                | 0.521 | 0.521 |
| ERQ5-21AS  | ZPV050LE-4X9                 | 0.610                                | 0.610 | 0.610 |
| ERQ5-24AS  |                              | 0.610                                | 0.610 | 0.610 |

NOTE

- Please refer to Section 13 - Operation Details on pages 40-41 of this Service Manual for Compressor Suction / Discharge Temperature Sensor Chart.



## 07. Fault and Status Codes

| QT*-1000,<br>Master Controller<br>(Main Screen) | ZT*-100<br>Zone<br>Controller | Outdoor<br>Unit<br>CPU | Category   | FUNCTION / FAULT   |
|---|-------------------------------|------------------------|------------|--|
| OFF   | OFF                           | oFF                    | Status     | Unit Off or Unit Turning Off (flashing)                        |
| Cooling (Status Bar)                            | Cooling                       | Cool                   | Status     | Unit Cooling Mode or Start Cooling (flashing)                  |
| Heating (Status Bar)                            | Heating                       | HEAt                   | Status     | Unit Heating Mode or Start Heating (flashing)                  |
| -   | -                             | dEF3                   | Status     | 3 min to defrost   |
| ❄️ Defrost Status                               | -                             | dEF                    | Status     | Heating Mode - Defrost   |
| Heating   | Heating                       | HEAt                   | Status     | Heating Mode - Indoor coil pre-heat after defrost              |
| -   | -                             | dEF2                   | Status     | 2 min to defrost   |
| -   | -                             | dEF1                   | Status     | 1 min to defrost   |
| -   | -                             | oiLr                   | Status     | Oil returning  |
| Flash Icon ( Stat Bar)                          | -                             | dr-1                   | Status     | DRM1   |
| Flash Icon ( Stat Bar)                          | -                             | dr-2                   | Status     | DRM2   |
| Flash Icon ( Stat Bar)                          | -                             | dr-3                   | Status     | DRM3   |
| 🔧 - Tech Menu (E02)                             | -                             | E02                    | IDU        | Indoor Coil IN Sensor Error (open or short circuit)            |
| 🔧 - Tech Menu (E03)                             | -                             | E03                    | IDU        | Indoor Room Sensor Error (open or short circuit)               |
| 🔧 - Tech Menu (E04)                             | -                             | E04                    | IDU        | Indoor Coil OUT Sensor Error (open or short circuit)           |
| 🔧 - Tech Menu (E06)                             | -                             | E06                    | ODU        | High Discharge Temp. (Discharge Temp exceeded 138°C)           |
| 🔧 - Tech Menu (E07)                             | -                             | E07                    | ODU        | Outdoor Coil Sensor Error (open or short circuit)              |
| 🔧 - Tech Menu (E08)                             | -                             | E08                    | ODU        | Outdoor Discharge Sensor Error (open or short circuit)         |
| 🔧 - Tech Menu (E09)                             | -                             | E09                    | ODU        | LP Tripped   |
| 🔧 - Tech Menu (E10)                             | -                             | E10                    | ODU        | LP Sensor Error (open/short circuit)                           |
| 🔧 - Tech Menu (E11)                             | -                             | E11                    | ODU        | HP Tripped   |
| 🔧 - Tech Menu (E12)                             | -                             | E12                    | ODU        | HP Sensor Error (open/short circuit)                           |
| 🔧 - Tech Menu (E15)                             | -                             | E15                    | ODU / VSD  | VSD Communication Error  |
| 🔧 - Tech Menu (E18)                             | -                             | E18                    | ODU        | Suction Temp Sensor is Open                                    |
| 🔧 - Tech Menu (E22)                             | -                             | E22                    | ODU        | Ambient Sensor Failure (open/short circuit)                    |
| 🔧 - Tech Menu (E26)                             | -                             | E26                    | VSD        | Over Current   |
| 🔧 - Tech Menu (E27)                             | -                             | E27                    | VSD        | Over Voltage   |
| 🔧 - Tech Menu (E28)                             | -                             | E28                    | VSD        | VSD Temperature High   |
| 🔧 - Tech Menu (E29)                             | -                             | E29                    | VSD        | Low Supply Voltage   |
| 🔧 - Tech Menu (E30)                             | -                             | E30                    | VSD        | Trip Lock  |
| 🔧 - Tech Menu (E41)                             | -                             | E41                    | VSD        | DC Link Voltage Low  |
| 🔧 - Tech Menu (E42)                             | -                             | E42                    | ODU        | Envelope protection error - Extremely low evaporating pressure |
| 🔧 - Tech Menu (E43)                             | -                             | E43                    | ODU        | Envelope protection error - High compression ratio             |
| 🔧 - Tech Menu (E44)                             | -                             | E44                    | ODU        | Envelope protection error - High condensing pressure           |
| 🔧 - Tech Menu (E45)                             | -                             | E45                    | ODU        | Envelope protection error - Low compression ratio              |
| 🔧 - Tech Menu (E50)                             | -                             | E50                    | ODU        | Outdoor Board configuration error                              |
| 🔧 - Tech Menu (E51)                             | -                             | E51                    | IDU / ODU  | Communication error between outdoor and indoor units           |
| 🔧 - Tech Menu (E52)                             | -                             | E52                    | IDU / ODU  | Comms. error between indoor board and 8-zone module            |
| 🔧 - Tech Menu (E53)                             | -                             | E53                    | AMIB / ODU | Communication error between indoor and master controller       |
| 🔧 - Tech Menu (E60)                             | -                             | E60                    | VSD        | Compressor Phase Over Current                                  |
| 🔧 - Tech Menu (E62)                             | -                             | E62                    | VSD        | DC Bus Over Voltage  |
| 🔧 - Tech Menu (E63)                             | -                             | E63                    | VSD        | DC Bus Under Voltage   |
| 🔧 - Tech Menu (E66)                             | -                             | E66                    | VSD        | AC Voltage Imbalance   |
| 🔧 - Tech Menu (E67)                             | -                             | E67                    | VSD        | Inverter De-saturation   |
| 🔧 - Tech Menu (E69)                             | -                             | E69                    | VSD        | PFC-IGBT Over Temp   |
| 🔧 - Tech Menu (E70)                             | -                             | E70                    | VSD        | Lost Rotor Position  |
| 🔧 - Tech Menu (E71)                             | -                             | E71                    | VSD        | Motor Thermistor Fault   |
| 🔧 - Tech Menu (E72)                             | -                             | E72                    | VSD        | Pre-charged Relay Open   |
| 🔧 - Tech Menu (E74)                             | -                             | E74                    | VSD        | Compressor Phase Over Current                                  |
| 🔧 - Tech Menu (E75)                             | -                             | E75                    | VSD        | Compressor Phase Current Fold Back Timeout                     |
| 🔧 - Tech Menu (E76)                             | -                             | E76                    | VSD        | Power Module Temp. Fold Back Timeout                           |

| QT*-1000,<br>Master Controller<br>(Main Screen) | ZT*-100<br>Zone<br>Controller | Outdoor<br>Unit<br>CPU | Category | FUNCTION / FAULT                             |
|---|-------------------------------|------------------------|----------|--|
| 🔧 - Tech Menu (E77)                             | -                             | E77                    | VSD      | AC Input Current Fold Back Timeout           |
| 🔧 - Tech Menu (E78)                             | -                             | E78                    | VSD      | Auto Config Communication Timeout            |
| 🔧 - Tech Menu (E80)                             | -                             | E80                    | VSD      | Motor Temp High                              |
| 🔧 - Tech Menu (E81)                             | -                             | E81                    | VSD      | Board Temp High                              |
| 🔧 - Tech Menu (E82)                             | -                             | E82                    | VSD      | Power Module Temp High                       |
| 🔧 - Tech Menu (E83)                             | -                             | E83                    | VSD      | PFC-IGBT Temp High                           |
| 🔧 - Tech Menu (E84)                             | -                             | E84                    | VSD      | DSP to PFC Communication Lost                |
| 🔧 - Tech Menu (E85)                             | -                             | E85                    | VSD      | Comms to DSP Communication Lost              |
| 🔧 - Tech Menu (E86)                             | -                             | E86                    | VSD      | Compressor Phase Current Imbalance           |
| 🔧 - Tech Menu (E87)                             | -                             | E87                    | VSD      | 3 Phase PFC Current Imbalance                |
| 🔧 - Tech Menu (E88)                             | -                             | E88                    | VSD      | Micro Electronic Fault or Drive EEPROM Fault |
| 🔧 - Tech Menu (E89)                             | -                             | E89                    | VSD      | Motor Over speed                             |
| 🔧 - Tech Menu (E90)                             | -                             | E90                    | VSD      | Compressor Model Configuration Error         |
| 🔧 - Tech Menu (E91)                             | -                             | E91                    | VSD      | Inverter Temp Imbalance                      |
| 🔧 - Tech Menu (E92)                             | -                             | E92                    | VSD      | PFC Temp Imbalance                           |
| 🔧 - Tech Menu (E93)                             | -                             | E93                    | VSD      | Motor Temp Low                               |
| 🔧 - Tech Menu (E94)                             | -                             | E94                    | VSD      | Board Temp Low                               |
| 🔧 - Tech Menu (E95)                             | -                             | E95                    | VSD      | Power Module Temp Low or Sensor Open fault   |
| 🔧 - Tech Menu (E96)                             | -                             | E96                    | VSD      | PFC-IGBT Temp Low                            |
| 🔧 - Tech Menu (E97)                             | -                             | E97                    | VSD      | Comms ADC Failure                            |

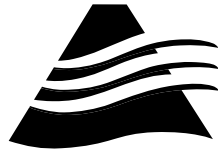
**PFC:** Power Factor Correction

**IGBT:** Insulated-Gate Bipolar Transistor

**DSP:** Digital Signal Processor

**ADC:** Analog to Digital Converter

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