

SYGNAI

AMBIENT INTELLIGENCE



Signal Ambient Intelligence Z-Plus Operation Manual

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This Technical Manual describes the service and troubleshooting of Signal Digital Inverter Ducted split air conditioners.

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Sourcing

Proudly designed and manufactured in Australia by Signal, an independent Australian-owned company.

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1. Z-Plus Touch Zone Operation

1.1 Selecting the operating mode

The Z-Plus Touch system has two operating modes.

- Damper control – Zone dampers can be positioned in 5% increments.
- Unit Control – Unit target temperature, fan speed and heat/cool mode.

1.2 Turning zones ON and OFF

1. Press the hardware  button adjacent the zone name to toggle the zone from ON to OFF.
2. Press the hardware  button at the bottom of the controller to toggle between zones 1-4, 5-8 and Favourites.

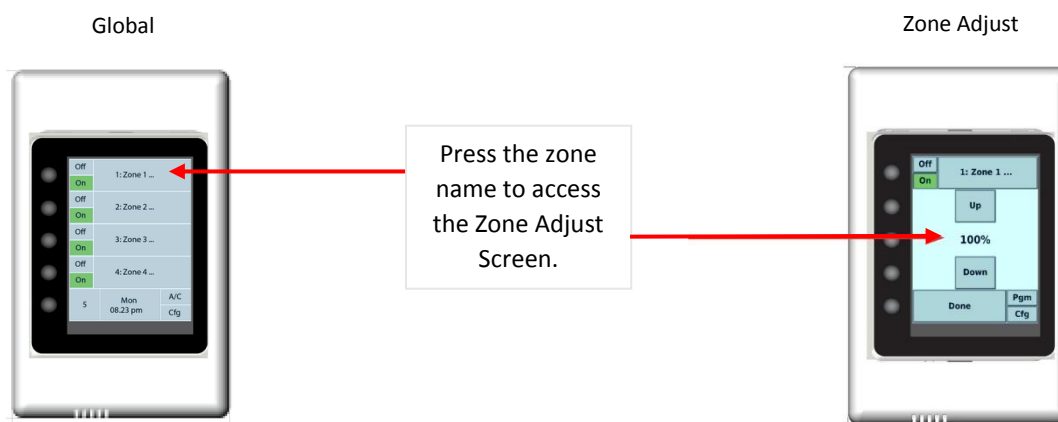
1.3 Setting a zone position (airflow)

1. Select the target zone.
2. Press the zone name to access the Zone Adjust Screen.
3. Use the Up or Down soft keys to adjust the target position.
4. Press Done to save and exit.

Zone position range is limited by the Min and Max parameters.

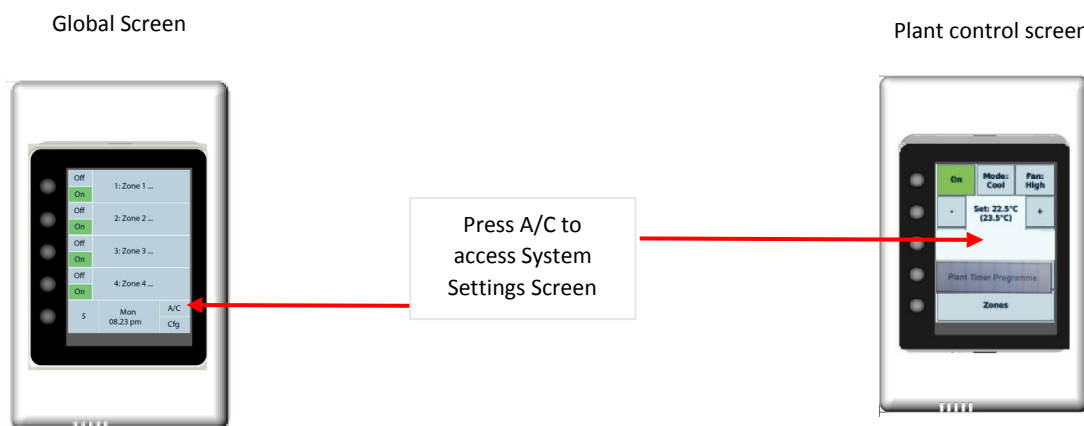
A zone position of 0% is equal to the Min parameter.

A zone position of 100% is equal to the Max parameter.



2. Z-Plus Touch Plant Control Operation

Press the A/C soft key on the bottom right of the global screen next to the clock to access the plant control screen.



2.1 Turning the unit ON or OFF

Press the soft key in the top left hand corner of the display and the unit state will toggle between ON and OFF.

2.2 Changing the unit operating mode

Press the soft key in the top centre of the display and the unit operating mode will toggle between Vent, Cool, Heat and Auto.

2.3 Changing the Fan Speed

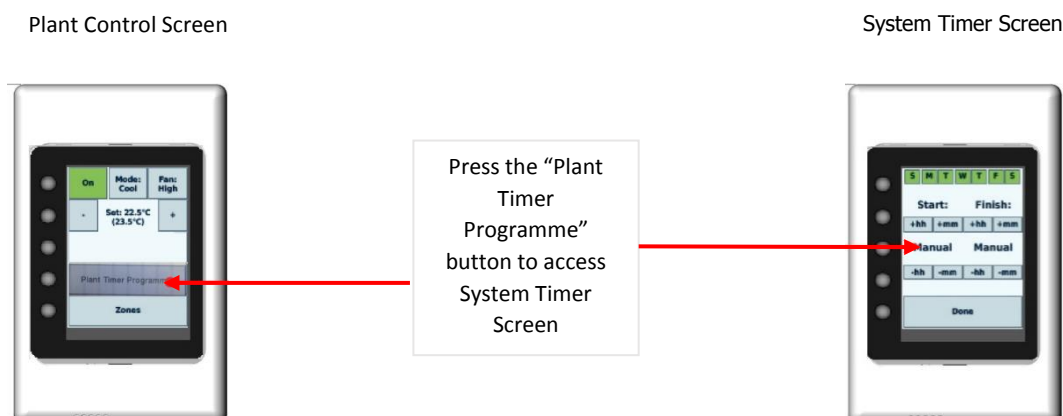
Press the soft key in the top right of the display and the fan speed will toggle between High, Medium, Low and Auto.

2.4 Adjusting the Target Temperature

Use the + and – soft keys to adjust the desired target temperature. The actual temperature is displayed below the target in brackets.

2.5 Adjusting the system timeclock program

1. Press the Plant Timer Programme soft key to enter the system timer screen.
2. Press the soft keys at the top of the displays to activate the days of the week the timeclock should be active.
3. Use the +hh and +mm, and -hh and -mm soft keys to adjust the Start and Finish times.

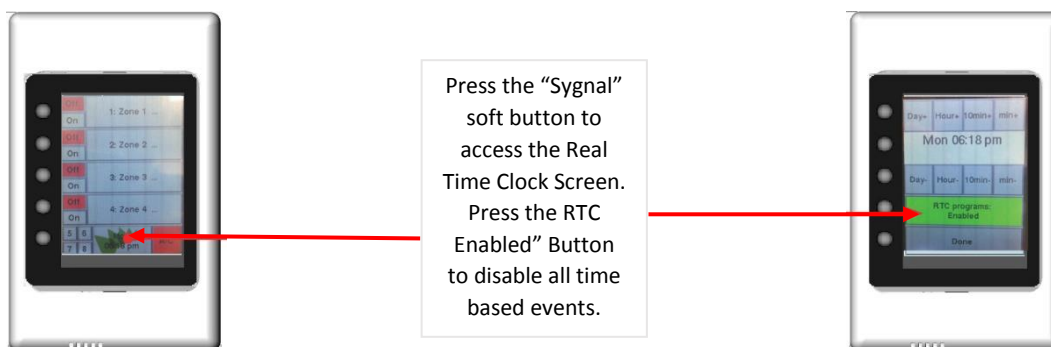


2.6 Setting the Time

1. Press the **Sygnal** soft key on the home screen to enter the Real Time Clock screen.
2. Press the soft keys positioned above and below the time and date to select the appropriate value for each field.

2.7 Holiday/Away Settings

Press the **RTC programs : Enabled** soft key to disable all time based ON and OFF events.



3. Troubleshooting

Problem	Possible Solution
Air Conditioner has restarted but does not operate for 4 minutes	The normal operating behaviour to protect the compressor. Wait until the air conditioner begins operating.
Operation stops for up to 12 minutes during heating and a different noise/sound comes from the unit.	The unit has entered defrost mode to melt the frost which has accumulated on the outdoor unit. This will take no longer than about 12 minutes so wait for the unit to resume normal operation. (Frost accumulates on the outdoor unit when the outdoor temperature is low and the humidity is high. Water comes out from the outdoor unit).
The air conditioner does not operate.	<p>Has the mode been set correctly? Is at least one zone ON. Has the setpoint for ON zones been set low enough for cooling or high enough for heating? Has the circuit breaker been tripped?</p>
The air conditioner does not cool/heat effectively.	<p>Has the mode been set correctly? Are all the windows and doors closed? Are the filters dirty? Are the intake or outlet vents of the outdoor unit obstructed? The outside temperature maybe below or above design conditions. Turning OFF any zones not required may help.</p>
<p>Abnormal noise is heard during operation (except during the defrosting operation). Water leaks from the indoor unit. Switches or buttons do not operate properly. Fault code is displayed on the controller.</p>	Contact your installer. Your model and serial number is recorded on the inside of the last page of this booklet.

3.1 Digital Inverter System Self Diagnostics / Fault detection

Signal systems are able to detect a number of problems and display a fault message to aid in troubleshooting.

Fault D1 = 3 Phase error Digital Outdoor

Line 1 = Fault D1:

Line 2 scrolls one of the following:

3 phase, L2 & L3 lost
3 Phase, L2 lost
3 Phase, L3 lost
3 Phase, rotate L2 & L3

Fault D2 – Coil Sensor Error (sensor nominated)

Line 1 = Fault D2:

Line 2 scrolls one of the following:

Outdoor coil sensor open circuit
Outdoor coil sensor short circuit
Indoor coil sensor open circuit
Indoor coil sensor short circuit

Fault D3 – High Pressure or Low Pressure Fault

Line 2 scrolls one of the following:

HP compressor safety
LP compressor safety
HP/LP compressor safety

Fault D4 – Interconnect Indoor > Outdoor

Line 1 = Fault 4:

Line 2 scrolls one of the following:

AHU and Condenser Interconnect

Fault D5 – Contact Manufacturer

Line 1 = Fault 5:

Line 2 scrolls Contact Manufacturer

Fault D6 – Contact Manufacturer

Line 1 = Fault 6:

Line 2 scrolls Contact Manufacturer

Fault D7 – Zoning to indoor Board Communications Lost

Line 1 = Fault 7:

Line 2 scrolls AHU and Zoning interconnect

Fault D8 – Contact manufacturer

Line 1 = Contact Manufacturer

3.2 Dual Inverter System Diagnostics / Fault detection.

Sygnal systems are able to detect a number of problems and display a fault message to aid in troubleshooting. If any fault messages are displayed contact your installer/service person.

Fault I1 – Indoor and Outdoor unit not compatible

Line 1 = Fault I1:

Line 2 scrolls one of the following:

AHU and Condenser not compatible

Fault I2 – Coil Sensor Error (sensor nominated)

Line 1 = Fault I2:

Line 2 scrolls the following:

Outdoor coil sensor open circuit

Outdoor coil sensor short circuit

Indoor coil sensor open circuit

Indoor coil sensor short circuit

Fault I3 – Contact Manufacturer

Line 2 scrolls one of the following:

Contact Manufacturer

Fault I4 – Interconnect Indoor>Outdoor

Line 1 = Fault 4:

Line 2 scrolls one of the following:

AHU and Condenser Interconnect

Fault I5 – Contact Manufacturer

Line 1 = Fault 5:

Line 2 scrolls Contact Manufacturer

Fault I6 – Contact Manufacturer

Line 1 = Fault 6:

Line 2 scrolls Contact Manufacturer

Fault I7 – Zoning to Indoor Board Communications Lost

Line 1 = Fault I7:

Line 2 scrolls AHU and Zoning interconnect

Fault I8 – Contact Manufacturer

Line 1 = Contact Manufacturer

4. Warranty terms and conditions

All goods which are the company's own are guaranteed against faulty workmanship, materials or design for a period of 12 months from the date of despatch, after which all liability on the part of the Company ceases, save:

a) Goods which are branded Sygnal, registered with Sygnal prior to the expiration of the standard 12 month warranty period, form part of the air conditioning unit and are used in a human comfort application. These goods are guaranteed against faulty workmanship, materials or design for a period of 60 months from the date of system commissioning or 72 months from the date of despatch which ever expires first.

The Guarantee does not apply in the following cases:

- b) Defect arising from materials supplied by the Purchaser or from a design requested by the Purchaser.
- c) Replacements or repairs resulting from normal wear of units and machinery, corrosive atmosphere, damage or injury caused by lack of care, insufficient inspection or maintenance, or improper use of the goods.
- d) Failure attributable to fortuitous circumstances or "force majeure"

The guarantee consists of repairing, modifying or replacing the parts or units recognised as defective within the shortest time at the Company's premises at the Company's expense save parts that are branded Sygnal and form part of the air conditioner, these parts will be repaired at the installation location providing the location is within 100km from the Company's premises or the premises of an appointed Agent or Dealer. The guarantee is inclusive of parts and labour. Subject to the above, the Company's liability and that of its resellers is wholly limited to the original cost of the product sold. Any unauthorised repairs or alterations to the equipment shall invalidate this warranty. In case of goods not of the manufacture of the company or its principals, the Company undertakes that it will, if requested in writing by the Purchaser to obtain from the manufacturer the benefit of any guarantee or warranty which the manufacturer may have expressly given as to the quality or fitness for any purpose of the goods, except as may otherwise be provided for by law. The fulfilment of this undertaking shall constitute the Company's sole liability in respect of any faulty goods of the manufacture of the Company or its principals. Neither the reseller nor the Company shall be liable for any injury, damages, expenses, or loss of profit, direct or consequential, arising out of the use or installation of products supplied by the Company all of which are supplied at the sole risk of the user. This warranty is in addition to any statutory warranty which a Purchaser cannot waive but all other warranties are waived by the Purchaser.

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5. Warranty key points in large print.

Sygnal HVAC systems used in human comfort applications are covered by a parts and labour on-site warranty as explained in detail later in this document. Sygnal is committed to making sure that our clients get years of trouble free operation from what we believe to be the world’s best residential concealed ducted air conditioning system. Like all warranty policies the Sygnal HVAC warranty provides peace of mind for clients and details the rights and responsibilities of Sygnal and the client.

HVAC systems like all machines require regular maintenance. If regular maintenance is not completed the system operation is compromised and although Sygnal systems have many safety systems built into their operation system longevity will be compromised. In most residential environments a single service per year completed in accordance with the programmed maintenance schedule is sufficient to ensure that system performance is not compromised and warranty terms and conditions are met.

Sygnal tracks all activity relating to your system and all other systems no matter where they are installed. This allows us to make sure that all performance information is passed directly back to our Engineering Team so that Future Sygnal systems can continue to set a new standard in product reliability. Tracking all system activity also helps our Service Team identify any environmental factors, unusual activity or a repeat faults. To achieve the required level of tracking to provide peace of mind for our clients we require that all systems are registered on the Sygnal website within the first twelve months of operation. Immediately on completion of the online registration form a unique identifier will be sent to the nominated email address, your system warranty will be extended from twelve months to six years from date of manufacture or five years from date of installation (whichever expires first).

1. Register your system: <https://www.sygnal.com.au/register-your-system>
2. Keep your system well maintained (If a fault occurs due to lack of maintenance or would have been rectified sooner if noted during programmed maintenance your claim may be declined or reduced).
3. Be mindful of possible travel charges (is there an appointed service agent within 100km from your home?).
4. Be mindful of broader system components that are not unmanufactured by Sygnal and may have different warranty terms and conditions (This may include iPads, motorised dampers, three phase soft start modules, ductwork, diffusers and grilles).
5. Be mindful that in the rare event that a failure occurs the replacement component is covered by twelve months or the remaining term of the system wide warranty whichever is the longest. System Registration

System Registration

Registration No. Date Issued.