

SYGNAL

AMBIENT INTELLIGENCE



Sygnal Ambient Intelligence Central Operation Manual

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

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Sourcing

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

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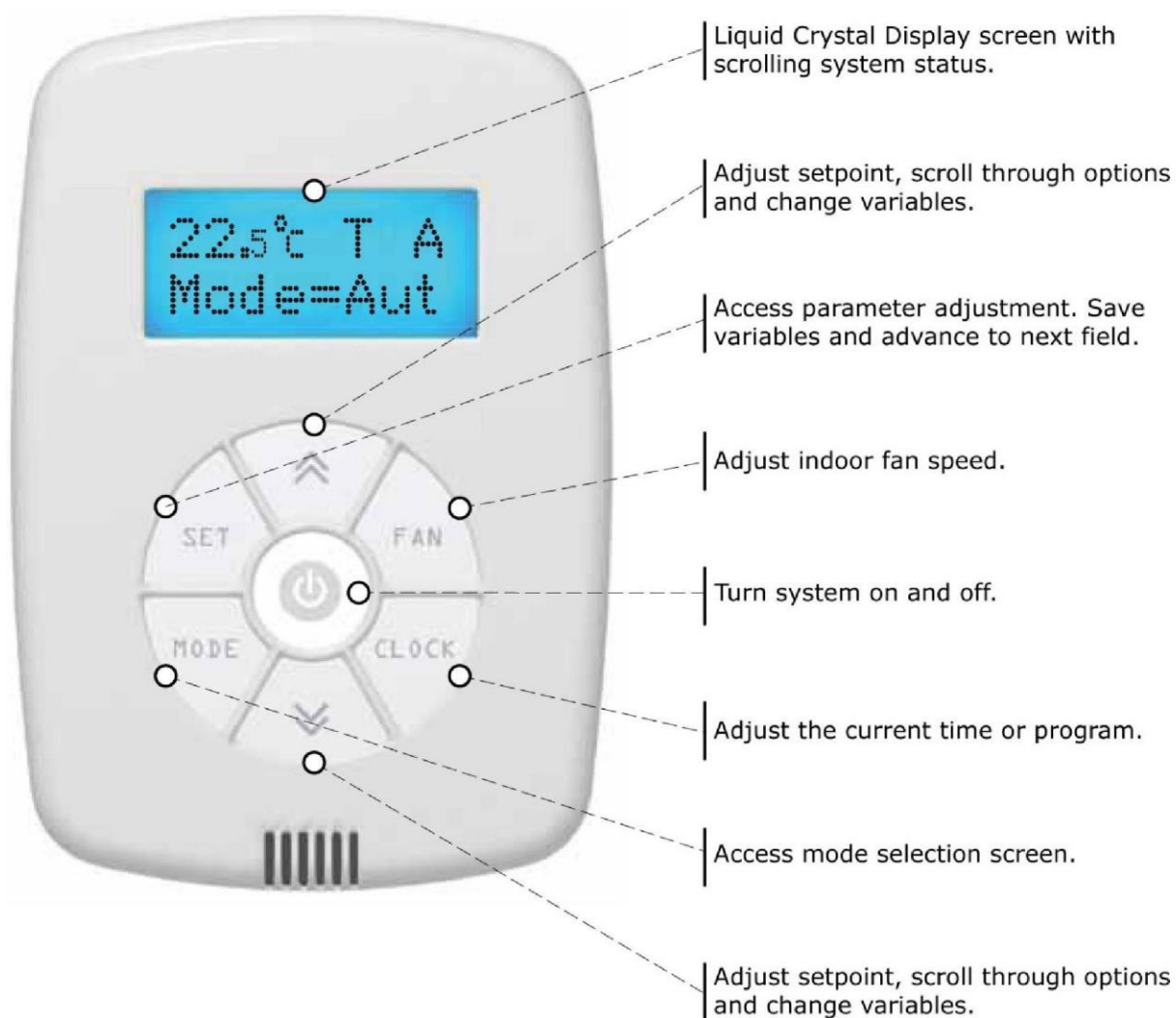


1. Sygnal Central Operating Instructions

The following pages detail the operation of the various control system types available for the Sygnal ducted systems.

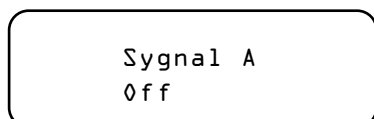
1.1 Sygnal Central Controller (single zone)

1.1.1 Touchpad Layout



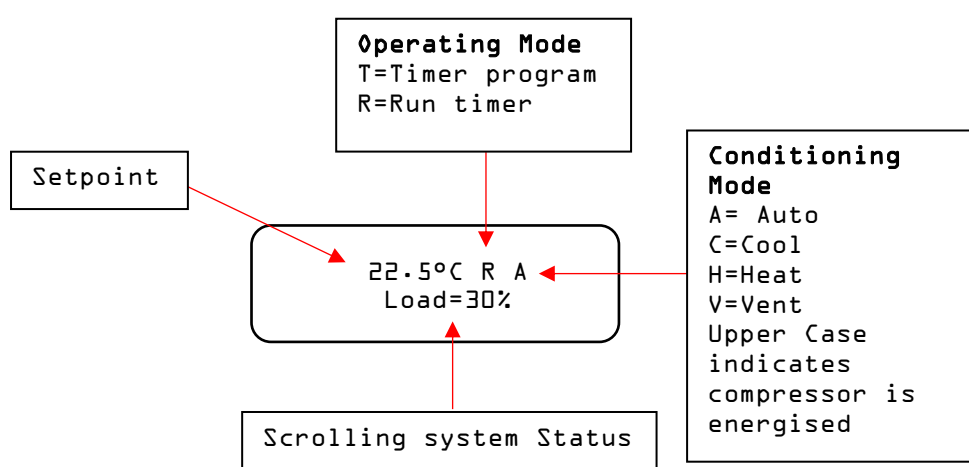
1.1.2 Turning the system on or off

1. Press the POWER button to turn the system on or off.
When the system is off the display appears like this.



(Signal Air Conditioning scrolls across the top line).

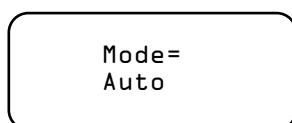
When the system is on the following information is displayed.



Mode=Auto Load=85% Fan=900L/s Temp=23°C Status Cooling

1.1.3 Selecting the conditioning mode

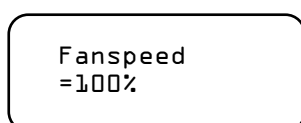
1. Press MODE to access the mode selection screen.



2. Use the UP or DOWN arrows to select the required mode (select from Auto, Cool, Heat or Vent)
3. Press SET to save and exit.

1.1.4 Adjusting the indoor fan speed

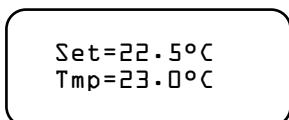
1. Press FAN to access the fan speed adjustment screen.



2. Press the UP or DOWN arrows to increase or decrease the fan speed setting (adjustable from 100% to 30% in 10% steps).
3. Press SET to save and exit.

1.1.5 Setting the required temperature (setpoint)

1. Press the UP or DOWN arrows or SET to access the setpoint adjustment screen.



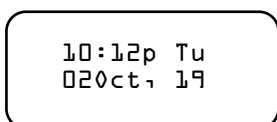
```
Set=22.5°C  
Temp=23.0°C
```

2. Use the Up or DOWN arrows to adjust the setpoint to the desired level.
3. Press SET to save and exit.

1.1.6 Clock Functions

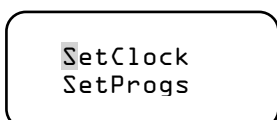
The optional clock module must be installed to enable the clock functions. These are then accessible via the clock display screen.

1. Press CLOCK to view the clock display screen.



```
10:12p Tu  
Oct, 19
```

2. Press SET to enter the clock menu screen.

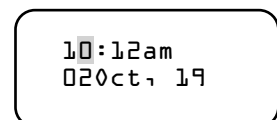


```
SetClock  
SetProgs
```

3. Use the UP or DOWN arrows to cycle the cursor to the desired menu option, then press SET to access the edit screen for that option.

1.1.7 Setting the clock

1. Select SetClock from the clock menu, then press SET to edit the system time.



```
10:12am  
Oct, 19
```

2. The cursor will highlight the hour value. Use the UP or DOWN arrows to select the correct hour (watch for am/pm), then press SET
3. Repeat this procedure for the minutes, Day, Month and Year values.
4. After pressing SET to accept the year, the display will return to the clock display screen.

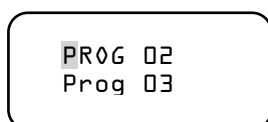
1.1.8 Setting the timer programs

Active programs will appear in CAPITALS

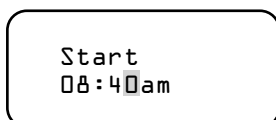
(PR0G 02 = active; prog 02 = Not active)

To disable a timer program, select a start & stop time of --:-- , or make all days inactive.

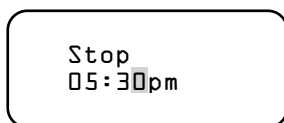
1. Select **Setprogs** from the clock menu, press **SET** to access the timer program selection screen.



2. Use the UP or DOWN arrows to select the timer program to be edited, then press **SET** to edit the start time. The cursor will highlight the minutes value.



3. Use the UP or DOWN arrows to select the correct time in 10 minute increments, then press **SET** to edit the stop time.



4. Use the UP or DOWN arrows to set the stop time then press **SET** to access the run day selection screen. The cursor will highlight the first letter on the bottom line, representing Sunday.



5. Press the UP arrow to turn this program on (S is upper case), or to turn the program off (s is lower case) for this day.
6. Press **SET** to save and move the cursor to the next day.
7. Press **CLOCK** to go back if required.
8. Repeat this procedure for each day of the week.
9. Press **SET** at Saturday to save the program and return the display to the program selection screen.
1. Use the UP or DOWN arrows to select another program and repeat the process.
10. Use the UP or DOWN arrows to navigate to the Exit option and press **SET** when finished.

1.1.10 Setting holidays

Active holidays will cause the system to ignore timer program signals.

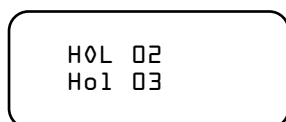
Holidays may be set as single days, or as blocks, Dates are inclusive. For a one-day holiday enter the same start and stop date.

All holiday programs *must have a start and stop date to be valid*.
To disable a holiday program, set its start or stop date to ----.

Active Holidays will appear in CAPITALS

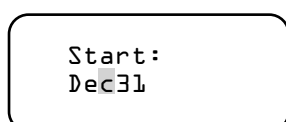
(H0L 02 = active; h0l 02 = not active)

1. Select **SET HOLS** from the clock menu screen then press **SET** to display the holiday program selection screen.



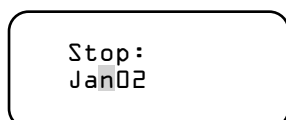
H0L 02
h0l 03

2. Use the UP or DOWN arrows to select the Holiday program to be edited, then press **SET**. The cursor will highlight the Month value.



Start:
Dec31

3. Use the UP or DOWN arrows to select the correct month, then press **SET**.
4. Use the UP or DOWN arrows to select the correct Day, then press **SET**. The display will change to the stop date screen.



Stop:
Jan02

5. Repeat the procedure to set the stop date for the holiday.
6. The display will revert to the holiday selection screen and the cursor will highlight the last holiday edited.
11. Use the UP or DOWN arrows to select another program and repeat the process.
7. Use the UP or DOWN arrows to navigate to the **EXIT** option and press **SET** when finished.

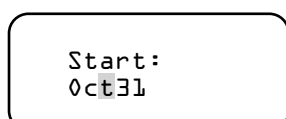
1.1.11 Daylight Savings

The daylight savings function advances the clock's time by 1 hour whilst the current date and time are between the start and stop dates set.

To disable daylight savings, simply select a start date of ----,

(Typically: Southern Hemisphere = Oct 31...Mar 31; Northern Hemisphere = Mar 31...Oct 31)

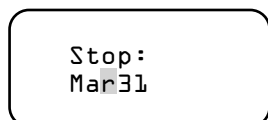
1. Select **DAY SAVE** from the clock menu, then press **SET** to select the start date for daylight savings. The cursor will highlight the month Value.



Start:
Oct31

2. Use the UP or DOWN arrows to select the correct Month, then press **SET**.

3. Use the UP or DOWN arrows to select the correct Day, then press SET. The display will change to the stop date screen.



4. Repeat the procedure to set the stop date for daylight savings. When finished the display will revert to the clock menu screen.

NOTE: The 1-hour advance occurs at 1:59 am (advances to 3:00 am) and the 1 hour revert occurs at 2:59am (reverts to 2:00am).

2. Manufacturers Recommendations

Regular maintenance will ensure your Sygnal system operates at maximum efficiency.



The air conditioning plant and control system contains no user serviceable parts. Installation, service and maintenance of these components should be carried out by a suitably qualified technician



The control circuits for the indoor and outdoor units carry voltages > 240 VAC which can cause serious injury or death.

2.1 Return Air Filter Cleaning

Cleaning the filter in the return air grille is recommended every month. Filters may be cleaned by either vacuum or hand wash in mild detergent. Never operate the air conditioner without the filter. Ensure the filter is in good condition, if not contact your installer for a replacement filter (a charge will apply).

2.2 Outdoor Unit

Do not place any object in front of the condenser. Keep free of grass, leaves and any other form of debris. This will allow for proper air flow and ensure unit efficiency.

2.3 Vents & Return Air Grill

Regular cleaning of the return air grill and air vents is recommended. This will prevent build-up of dust and dirt.

2.4 Controller

Clean the wall control with a dry cloth. Do not use a spray detergent or water.

IMPORTANT: Neon signage will interfere with the operation of Sygnal controllers. Do not have neon lights near Sygnal Navigators or Room controllers as the Electromagnetic field (EMF) will disrupt the operation of the controllers.

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

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 top 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.

