HOLMAN

ASPECT Wi-Fi Solar Pro
WEATHER STATION

17 WEATHER DATA POINTS

Wi-Fi WEATHER STATION

PRODUCT CODE
WS5091W-MKii

User Guide

Contents

Introduction

Your **Aspect Wi-Fi Solar Pro** gathers and uploads accurate and detailed weather data to **Weather Underground**. It offers professional weather observers or serious weather enthusiasts robust performance. You will get your own local forecast, high/lows, totals and averages for virtually all weather variables without using a desktop computer.

Your **Solar Pro Outdoor Sensor** measures outdoor temperature, humidity, wind, rain, UV and light, continually transmitting weather data to the **Main Console**. Both your **Outdoor Sensor** and your **Wireless Hygro-Thermo Indoor Sensor** are fully assembled and calibrated for easy installation. They send data via a low power RF signal to the **Main Console** from up to 150m away (line of sight).

Within your **Main Console**, high-speed processors are embedded to analyse your weather data at real-time, and publish it to **Weather Underground** via your home Wi-Fi network and internet connection

Your **Main Console** can also synchronise with internet time servers to show high precision time and weather data date/time stamp. The colour LCD display shows informative weather readings with advanced features, such as high/low alert alarm, different weather index, and max/min records. With calibration, sunrise/sunset and moon phase features, this system is a great weather station for your backyard.

ℹ This instruction manual contains useful information on the proper use and care of this product. Please read through to fully understand and enjoy its features, and keep it handy for future use.

Precautions

ⓘ Do not subject the unit to excessive force, shock, dust, temperature or humidity

ⓘ Do not cover the ventilation holes with any items such as newspapers, curtains etc.

ⓘ Do not immerse the indoor components in water. If you spill liquid over them, dry immediately with a soft, lint-free cloth

ⓘ Do not clean the unit with abrasive or corrosive materials

ⓘ Do not tamper with the unit's internal components to avoid invalidating your warranty

ⓘ Placement of this product on certain types of wood may result in damage to its finishing for which Holman Industries will not be responsible

ⓘ Only use fresh batteries. Do not mix new and old batteries

ⓘ Only use genuine **HOLMAN** attachments or accessories available at ***www.holmanindustries.com.au***

ⓘ Images shown in this **User Guide** may differ from the actual display

ⓘ When disposing of this product, ensure it is collected separately for special treatment

ⓘ Dispose of used batteries according your local recycling regulations

ⓘ Ensure your **Main Console** is installed near your power outlet and is easily accessible

ⓘ The contents of this manual may not be reproduced without the permission of **Holman Industries**

ⓘ Technical specifications and user manual contents for this product are subject to change without notice. We advise checking ***www.holmanindustries.com.au*** for the latest information

ⓘ This product is not a toy. Keep out of the reach of children

ⓘ The **Main Console** is intended to be used only indoors

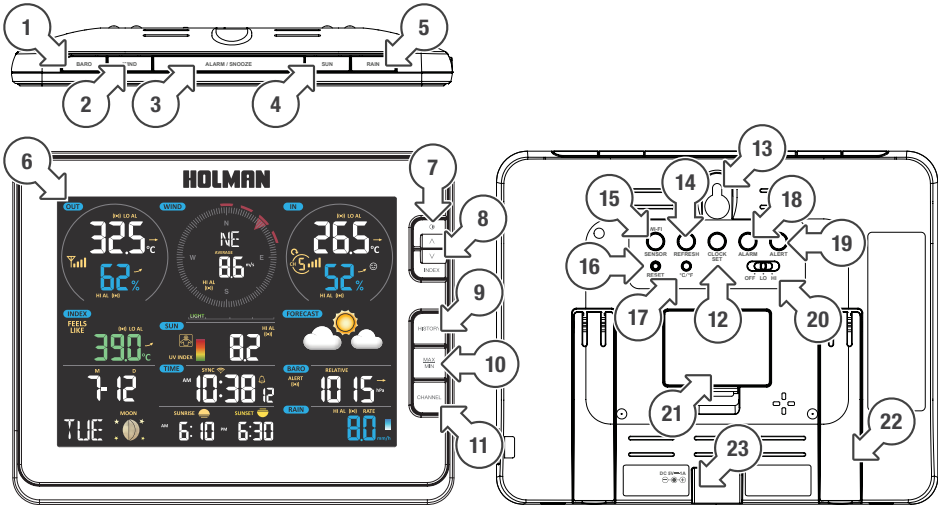ⓘ Only use the supplied power adaptor to power your **Main Console**

⚠ **Risk of explosion if battery is replaced by an incorrect type**

Overview

Main Console

1. **BAROMETER**
2. **WIND**
3. **ALARM/SNOOZE**
4. **SUN**
5. **RAIN**
6. LCD display

7. ∧ ◑ Display brightness adjuster
8. ∨ **INDEX**
9. **HISTORY**
10. **MAX/MIN**
11. **CHANNEL**
12. **CLOCK SET**

13. Wall mount
14. **REFRESH**
15. **SENSOR/Wi-Fi**
16. **RESET**
17. **°C/°F**
18. **ALARM**

19. **ALERT**
20. **OFF/HI/LO** slider
21. Battery compartment
22. Table stand
23. Power jack

LCD Display
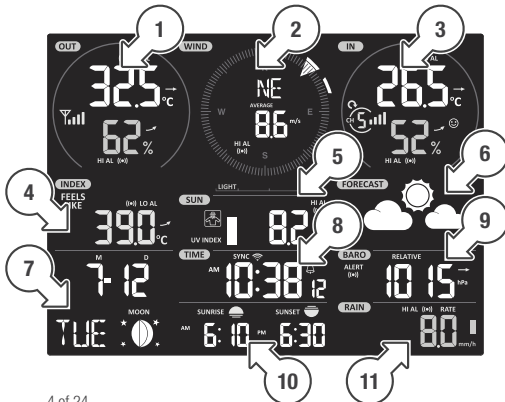
1. Outdoor temperature and humidity
2. Wind direction and speed
3. Indoor temperature and humidity
4. Weather index
5. UV index and light intensity

6. Weather forecast
7. Calendar and moon phase
8. Time/alarm
9. Barometer
10. Sunrise and sunset time
11. Rainfall and rain rate

Overview (continued)

Hygro-Thermo Indoor Sensor

1. Transmission status LED
2. Wall mount
3. Channel slider
4. **RESET**
5. Battery compartment
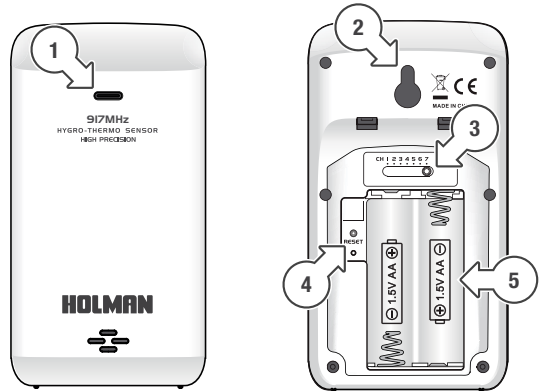
Solar Pro Outdoor Sensor

1. Wind vane
2. Wind cups
3. Antenna
4. Radiation shield
5. Thermo-hygro sensor
6. Mounting parts (to fit 35-40mm diameter pole)
7. Battery door
8. **RESET**
9. Transmission status LED
10. Bubble level
11. Rain collector
12. UV/light sensor
13. Solar panel
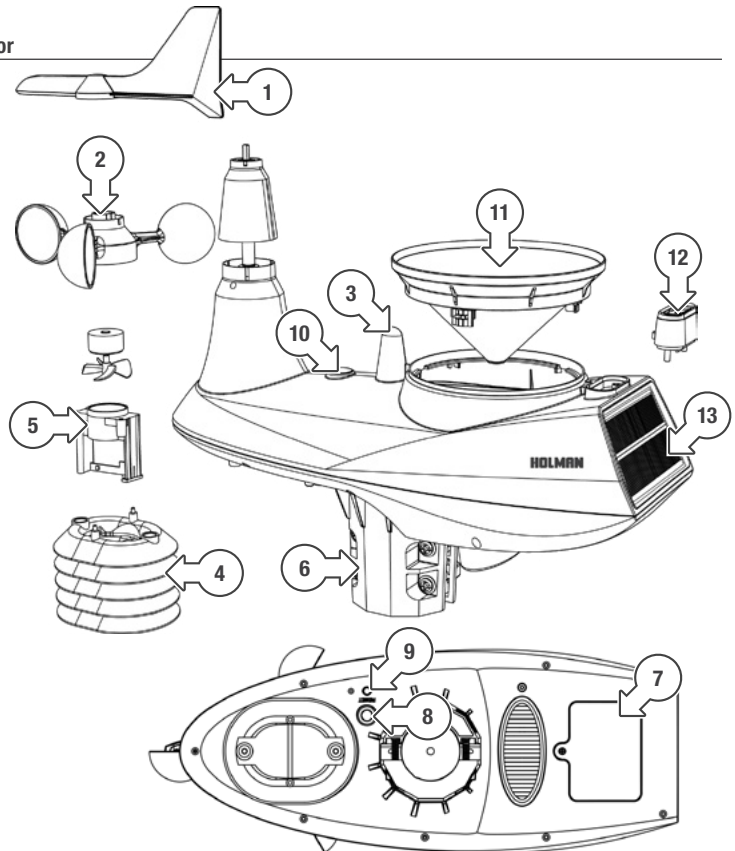
Installation and Setup

Main Console

Console Setup:

1. Power up the **Main Console** by plugging the adaptor provided to the power jack at the back

2. Once it is powered on, all the segments of the **LCD Display** will be shown momentarily

3. The **Main Console** will automatically enter **SENSOR SYNCHRONISATION MODE** and **AP MODE**

ℹ️ If no data appears on the **LCD Display** after you plug the adaptor, press **RESET** using a pointed object

Synchronising Your Sensors:

1. While still in **SENSOR SYNCHRONISATION MODE**, the **Solar Pro Outdoor Sensor** and **Hygro-Thermo Indoor Sensor** can be paired to the **Main Console** automatically

2. Once your sensors are paired, their signal strength and weather readings will appear on your **LCD Display**

Backup Battery:

ℹ️ Backup batteries are used to keep time-sensitive information on the **Main Console** memory during a power failure, including time, date, alarm time, max/min, past-24-hour records, alert setting values, sensor channel history, and units

1. Remove the battery door of the console

2. Insert three new AAA batteries with polarity as indicated

3. Replace the battery door

Built-in Memory:

ℹ️ The console has built-in flash memory that holds the vital settings including time zone, time sync status, Wi-Fi and weather server settings, latitude/longitude, hemisphere, calibration values, and sensor ID of paired sensors

Reset and Factory Hard Reset:

1. To reset the **Main Console** and start again, press **RESET** once

2. To perform hard reset and restore the **Main Console** to factory settings, press and hold **RESET** for 6 seconds

Resynchronise Sensors:

ℹ️ Press **SENSOR/Wi-Fi** once to enter **SENSOR SYNCHRONISATION MODE**, to re-register all the sensors that have already been registered to it before

ℹ️ The **Main Console** will not lose the connection of the sensors that you have paired previously

Changing Sensor Batteries:

ℹ️ Whenever **Outdoor** or **Indoor Sensor** batteries are changed, resynchronisation must be done manually

1. Replace all the batteries in the desired **Sensor**

2. Press **SENSOR/Wi-Fi** on the **Main Console** to enter **SENSOR SYNCHRONISATION MODE**

3. Press **RESET** on the desired **Sensor**

Installation and Setup

Hygro-Thermo Indoor Sensor

Pairing with the Main Console:

1. Remove the battery door of the sensor

2. Insert 2 × AA size batteries into the battery compartment. Make sure you insert them the right way according to the polarity information marked on the battery compartment

3. Close the battery door. The transmission status LED will begin to flash every minute

ℹ️ If you need to re-assign the sensor channel, firstly slide the channel slide switch to the new channel, press **SENSOR** on the *Main Console*, and then press **RESET** on the *Hygro-Thermo Indoor Sensor* to pair them again

ℹ️ Avoid placing the sensors in direct sunlight, rain or snow

ℹ️ To avoid the sensors and *Main Console* pairing failure, please power up the sensors first, and then press **RESET** on the *Main Console* (no need on sensors)
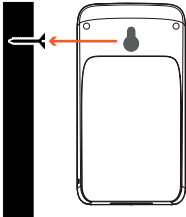
Placing the sensor:

Place a screw on the wall that you wish to hang the sensor on. Hang the sensor onto the screw by the wall mounting holder. You can also place the sensor on a table by itself

Synchronising Additional Indoor Sensors (Optional):

ℹ️ The console can support up to seven additional *Hygro-Thermo Indoor Sensors*

1. Press **SENSOR/Wi-Fi** once on the *Main Console* to enter **SENSOR SYNCHRONISATION MODE**

2. Press **RESET** on the new sensor, and wait a few minutes for the new sensor to pair with the *Main Console*

ℹ️ Channel number of the indoor sensor must not be duplicated among *Indoor Sensors*

Installation and Setup (continued)

Solar Pro Outdoor Sensor

Your outdoor sensor measures wind speed, wind direction, rainfall, UV index, temperature and humidity.

Southern Hemisphere Setup:

The **Solar Pro Outdoor Sensor** is calibrated to point north. However, for users in the Southern Hemisphere, it is necessary to use the sensor with the wind vane pointing south

1. Install the **Outdoor Sensor** with the wind meter end pointing south

SOUTH
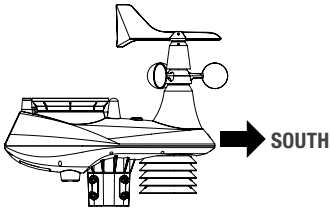
2. Select **S** for **Hemisphere** when setting up the **Weather Server** connection (refer to for more details)

ℹ Changing the hemisphere setting will automatically switch the direction of the moon phase on the **LCD Display**

Pairing the Outdoor Sensor with the Main Console:

1. Unscrew the battery door at the bottom of the unit and insert the batteries according to the polarity information marked on the battery compartment
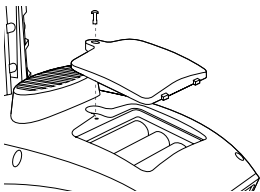
2. Screw on tightly

3. Once the batteries are installed, the transmission status LED will begin to flash

ℹ Ensure the battery door screw locked well

ℹ Ensure the transmission status LED is flashing every 12 seconds

Installing the Solar Pro Outdoor Sensor:

Install in an open location with no obstructions above and around the sensor for accurate rain and wind measurement

To insure a tight grip, apply the rubber pads provided before fastening to the pole (not included)

N

ADD RUBBER PADS BEFORE MOUNTING ON POLE OR POST
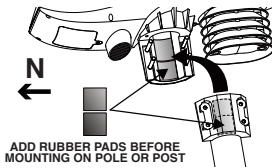
Mounting guideline:

1. Install the sensor at least 1.5m off the ground for better and more accurate wind measurements

MOUNTING POLE AND STAND NOT INCLUDED

MIN 1.5m
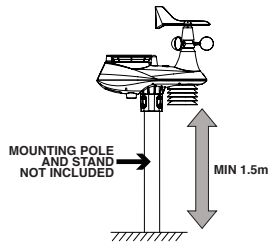
2. Choose an open area within 150m from the **Main Console**

3. Install as level as possible to achieve accurate rain and wind measurements. Use the level indicator on the top to ensure a level installation

4. Mount with the solar panel end pointing to North to correctly orient the direction of the wind vane

Installation and Setup (continued)

Wi-Fi Connection Setup

ⓘ Your **Main Console** can upload weather data to *Weather Underground* through a Wi-Fi router

ⓘ To connect your **Main Console** to Wi-Fi, it must be registered with **Weather Underground**

ⓘ These setup instructions are correct as of June 2020; Refer to *https://www.wunderground.com/* for details as their website is subject to change without notice

Register your Aspect Wi-Fi Solar Pro with Weather Underground:

1. Visit *https://www.wunderground.com/* and click **JOIN** in the top right corner, and follow the prompts to create an account

ⓘ Your email address must be validated by **Weather Underground** before proceeding. If you already have an account with **Weather Underground** you can simply **LOG IN**

2. After logging in to your account, click **MY PROFILE** and select **MY DEVICES** in the menu

3. On the following page, click **ADD NEW DEVICE**

4. Under **PERSONAL WEATHER STATION**, use the drop-down menu to select **OTHER** at the bottom of the list and click **NEXT**

ⓘ On the following page, you will be prompted to enter your address

5. When you start entering your address, it should appear in full in a drop-down menu below–select your address accordingly

6. After selecting your address, **Weather Underground** will confirm *"your location has been verified and added"* with your **LONGITUDE** and **LATITUDE** listed below: note these down for later

⚠ This information is required as part of the setup process later on. Be sure to note down this data accurately

7. Click **NEXT**

8. Fill out the following prompts and click **NEXT** to complete registration of your weather station

9. After registering, **Weather Underground** will confirm *"Congratulations! Your personal weather station is now registered with Weather Underground"* with your **STATION ID** and **STATION KEY** list below: note these down for later

⚠ This information is required as part of the setup process later on. Be sure to note down this data accurately

Set the Main Console to transmit weather data to Weather Underground:

1. Plug the adaptor into the DC jack to power up your **Main Console** for the initial start-up

ⓘ You can also access **AP MODE** by holding **SENSOR/Wi-Fi** for six seconds in **NORMAL MODE**

2. Using your Wi-Fi enabled device (computer, tablet or smartphone) connect to the Wi-Fi network generated by your **Main Console** (SSID: PWS-XXXXXX)

ⓘ This may temporarily disconnect your computer or smartphone from the internet, and will reconnect at the end of the setup process

3. Once connected, open the web browser on your device, type *http://192.168.1.1* into the address bar and press **ENTER** to access the **Main Console** setup interface

ⓘ Some browsers will treat *192.168.1.1* as a search, so be sure to include **http://** at the start

ⓘ We recommended using the latest versions of the following web browsers: **Chrome**, **Safari**, **Edge**, or **Firefox**

4. Fill in the connection information for the setup interface. Your **Main Console** will use this information to connect your Wi-Fi router

Installation and Setup (continued)

Wi-Fi Connection Setup (continued)

Wi-Fi Connection Status:

📶 **Main Console** is in connection with Wi-Fi router

📶 **Main Console** is trying to connect

Main Console is in **AP MODE**

ℹ After the dialogue confirms the setup process is complete, you can log back in to your home Wi-Fi network

ℹ During **AP MODE**, you can press and hold **SENSOR/Wi-Fi** for six seconds to stop **AP MODE** and the console will restore your previous setting

Weather Server Connection:

Enter the following information into the below **SETUP** page to connect the **Main Console** to the weather server. If you do not want to use **Weather Underground**, please empty the **STATION ID** and **KEY** to ignore the data upload

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SETTINGS

SETUP   ADVANCED ──────── Press "ADVANCED" icon to Advanced page

Language: English ▼ ── Select setup UI display language

WiFi Router setup

Press to search router ── Search   Router: ROUTER_A ▼ ── Select router (SSID) for connection

Press to allow add router manually ── Add Router   [   ] ── Manually enter the SSID if not on list

Security type: WAP2 ▼ ── Select router's security type (usually WAP2)

Router Password: ✶✶✶✶✶✶ 👁 ── Router's password (leave blank if the Security type is "Open")

Weather server setup

Wunderground

Station ID: WDw124 ──────── Enter new Station ID and Station key that assigned by Wunderground

Station key: ✶✶✶✶✶✶ 👁

Weathercloud

Station ID: [   ] ──────── Leave blank

Station key: [   ] 👁

URL: http://W ────────

Station ID: IDCR21w1 ────────

Station key: ✶✶✶✶✶✶ 👁

Mac address   00:0E:C6:00:07:10

Time server setup

Server URL: nist.time.gov ▼ ── Select time server

Time Zone: 0:00 ▼ ── Select time zone of your location

Location for sunrise / sunset

Enter the Latitude value ── *Latitude: 0.0000   North ▼ ── Select the direction (e.g. EU countries Longitude is East and US is West)

Enter 0 to 90, no negative numbers

Enter the Longitude value ── *Longitude: 0.0000   East ▼

Enter 0 to 180, no negative numbers

Hemisphere N ▼ ── Select the sensor located hemisphere (e.g. US and EU countries are also "N", Australia is "S")

* Depends on the model

Firmware version: 1.00

Apply ── Press to complete the setting

Installation and Setup (continued)

Wi-Fi Connection Setup (continued)

Time Server Connection Status:

After the **Main Console** has connected to the internet, it will attempt to connect to the internet time server to obtain the UTC time. Once the connection succeeds and the time has been updated, the **SYNC** icon will appear on the **LCD Display**

The time will automatically synchronise with the Internet time server at 12:00 AM and 12:00 PM each day. You can also press **REFRESH** to sync the internet time manually within 1 minute.

Calibration:

Click **ADVANCED** at the top of the setup interface to enter the advance setting page. This page allows you to set and view the calibration data of the console

1. You can input offset and gain values for different data parameters

2. Once completed, press **APPLY** at the bottom of the **SETUP** page

ℹ️ Calibration of most parameters is not required, with the exception of **RELATIVE PRESSURE**, which must be calibrated to sea-level to account for altitude effects

ℹ️ Indoor temperature and humidity calibration values are not applicable for this console

Press "SETUP" icon to Setup page

Select setting unit

Outdoor and Ch 1~7 temperature calibration section

Outdoor and Ch 1~7 humidity calibration section

Select setting unit

Pressure calibration section

Current offset value is the value that you set before to offset the pressure reading.

The rain, wind speed, UV and Light calibration use gain method. The wind direction is +/- 10 offset.

Current firmware version

The firmware update function only available in PC web browser

SETTINGS

SETUP ADVANCED

Temperature °C ▼   Humidity %

Indoor	Current offset: 1	Current offset: -5
Outdoor	Current offset: -9	Current offset: 10
CH 1	Current offset: 2	Current offset: -5
CH 2	Current offset: 3	Current offset: -2
CH 3	Current offset: 1.2	Current offset: -2
CH 4	Current offset: -0.2	Current offset: -5
CH 5	Current offset: -20.1	Current offset: -3
CH 6	Current offset: 11.5	Current offset: -10
CH 7	Current offset: 0.2	Current offset: -3

Range: -20.0 ~ 20.0°C
-36.0 ~ 36.0°F (Default: 0.0)

Range: -20 ~ 20
(Default: 0.0)

Pressure hpa ▼

Absolute Pressure Offset: Current offset: -3 (Default: 0)
Relative Pressure Offset: Current offset: 10 (Default: 0)

Setting Range:
-560~ 560hpa / -16.54 ~ 16.54inHg / -420 ~ 420mmHg

*Rain gain: Current gain: 0.85 Range: 0.5 ~ 1.5(Default: 1.00)
*Wind speed gain: Current gain: 0.75 Range: 0.5 ~ 1.5(Default: 1.00)
*Wind direction: Current offset: 2° Range: -10 ~ 10(Default: 0°)
*UV gain: Current gain: 1.1 Range: 0.01 ~ 10(Default: 1.00)
*Light gain: Current gain: 1.1 Range: 0.01 ~ 10(Default: 1.00)

* Depends on the model

Firmware version: 1.00

Browse
Upload

Operation and Settings

Reading your Data in Weather Underground

To view your weather station data live in a web browser, visit ***https://www.wunderground.com/***, and enter your **STATION ID** in the **SEARCH LOCATIONS** box at the top of the page. Your weather data should be visible on the following screen. You can also login your account to view and download the recorded data of your weather station.

You can also check *Weather Underground* web site to learn more about their smartphone apps for 🤖 *Android* and *iOS*.

Manual Clock Setting

This console is receives UTC time by synchronising with the assigned internet time server. If you want to use it offline, you can set the time and date manually.

1. During initial start-up, press and hold **SENSOR/Wi-Fi** for six seconds and let the *Main Console* revert back to *Normal Mode*

2. In *Normal Mode*, press and hold **CLOCK SET** for two seconds

3. In *Clock Set Mode*, press **CLOCK SET** to cycle through the following time settings: **TIME ZONE > HOUR > MINUTE > SECOND > 12/24 HOUR FORMAT > YEAR > MONTH > DAY > MD/DM FORMAT > TIME SYNC ON/OFF > WEEKDAY LANGUAGE**

4. Press ⌃ ◑ or ⌄ **INDEX** to change the value, or press and hold either key for quicker adjustment

5. Press **CLOCK SET** to save and exit *Clock Set Mode*, or the unit can automatically exit this mode in 60 seconds

ℹ In normal mode, press **CLOCK SET** to switch between **YEAR** and **DATE** display

ℹ When in *Clock Set Mode*, you can press and hold **CLOCK SET** key for two seconds to exit back to *Normal Mode*

Moon Phase

This is determined by the time, date and time zone. The following table explains the **MOON PHASE** icons.

Northern Hemisphere	Moon Phase	Southern Hemisphere
	New Moon	
	Waxing Crescent	
	First quarter	
	Waxing Gibbous	
	Full Moon	
	Waning Gibbous	
	Third quarter	
	Waning Crescent	

Sunrise and Sunset Time

The console indicates your location sunrise and sunset times by the time zone, latitude and longitude entered in the setup process. If the latitude and longitude values do not match the time zone, the sunrise and sunset times cannot be shown.

Operation and Settings (continued)

Setting Alarm Time

1. In *Normal Mode*, press and hold **ALARM** for two seconds until the alarm **HOUR** digit flashes to enter *Alarm Time Setting Mode*.

2. Press ⌃ ◐ or ⌄ **INDEX** to change the value, or press and hold either key for quicker adjustment

3. Press **ALARM** again to set the **MINUTE** value

4. Press ⌃ ◐ or ⌄ **INDEX** to change the value, or press and hold either key for quicker adjustment

5. Press **ALARM** to save and exit the setting

ⓘ In alarm mode, the 🔔 icon will show on the *LCD Display*

ⓘ The alarm function will turn on automatically once you set the alarm time

ⓘ When the alarm sounds, it will auto-stop after two minutes and the alarm will activate again in the next day

ⓘ Press **ALARM/SNOOZE** to enter **Snooze Mode** where the alarm will sound again after five minutes

ⓘ Alternatively, press and hold **ALARM/SNOOZE** for two seconds to stop the alarm and will activate again in the next day

ⓘ During **Snooze Mode**, the 🔔 icon will flash

Temperature Alarm Functions

1. In normal mode, press **ALARM** to show the alarm time for five seconds

2. When the alarm time displays, press **ALARM** again to activate the alarm function, or press **ALARM** twice to activate the alarm with ice pre-alarm function

ALARM OFF	ALARM ON	ICE ALERT
🔔 ❄	🔔 ❄	🔔 ❄

ⓘ Once the ice pre-alert activates, the pre-set alarm will sound and ice-alert icon will flash 30 minutes earlier if the outdoor temperature is below -3°C

Temperature/Humidity Functions

The temperature and humidity reading are displayed in the **OUT** and **IN (CH)** sections.

ⓘ Use the **°C/°F** button to choose temperature units

ⓘ If temperature/humidity is below the measurement range, the reading will show **LO**

ⓘ If temperature/humidity is above the measurement range, the reading will show **HI**

Comfort Indication

The comfort indication is a pictorial indication based on indoor air temperature and humidity in an attempt to determine comfort level

☹	☺	😓
Too cold	Comfortable	Too hot

ⓘ Comfort indication can vary under the same temperature, depending on the humidity.

ⓘ There is no comfort indication when temperature is below 0°C or over 60°C

Wireless Sensor Signal

The console displays signal strength for the wireless sensors, as shown below:

OUTDOOR			
INDOOR	No signal	Weak signal	Good signal
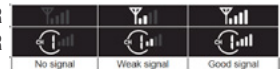
ⓘ If the signal has disconnected and does not recover within 15 minutes, the signal icon will disappear. The temperature and humidity will display **ER** for the corresponding channel.

ⓘ If the signal does not recover within 48 hours, the **ER** display will become permanent. Replace the batteries and then press **SENSOR/Wi-Fi** to pair the sensor again

Operation and Settings (continued)

View Additional Indoor Channels

The **Main Console** can pair with an **Outdoor Sensor** and up to seven **Indoor Sensors**.

ℹ️ If you have two or more **Indoor Sensors**, you can press **CHANNEL** to switch between different wireless channels in **Normal Mode**

ℹ️ Press and hold **CHANNEL** for two seconds to auto-cycle through the connected channels at a four-second interval

ℹ️ During the auto-cycle, the ⟳ icon will show in the **IN** section of the LCD display

ℹ️ Press **CHANNEL** to stop the auto-cycle and display the current channel

ℹ️ Additional Indoor Sensors are available at **www.holmanindustries.com.au**

Trend Indicator

The trend indicator shows weather trends in the forthcoming few minutes. The icon will appear in **TEMPERATURE**, **HUMIDITY**, **INDEX** and **BARO** section

Rising   Steady   Falling

Wind Speed and Direction

Wind direction — Real time wind direction indicator
— Past wind directions indicator of last 5 minutes
Wind speed level indicator — Average / gust wind speed

1. In **Normal Mode**, press and hold **WIND** for two seconds and the units will flash

2. Press ⌃ ◑ or ⌄ **INDEX** to change the wind speed units in this sequence:
   m/s > km/h > knots > mph

3. Press **WIND** again and the wind direction reading will flash

4. Press ⌃ ◑ or ⌄ **INDEX** to select the display format between 360 degree or 16 direction

5. Press **WIND** again to return to **Normal Mode**

6. In **Normal Mode**, press **WIND** to switch between **BEAUFORT SCALE**, **AVERAGE** and **GUST**

ℹ️ For more information on the Beaufort Scale, visit **https://www.holmanindustries.com.au/beaufort-wind-force-scale/**

Weather Index

ℹ️ Press ⌄ **INDEX** to view different weather indices in this sequence:
FEELS LIKE > DEW POINT > HEAT INDEX > WIND CHILL

Feels Like: Shows what the outdoor temperature will feel like. It is a collective mixture of Wind Chill factor (18°C or below) and the Heat Index (26°C or above).

Dew Point: The temperature below which the water vapour in air at constant barometric pressure condenses into liquid water at the same rate at which it evaporates. The dew point temperature is determined by the temperature and humidity data from the **Outdoor Sensor**.

Wind Chill: A combination of the **Outdoor Sensor** temperature and wind speed data determines the current wind chill factor.

Operation and Settings

Heat Index: The heat index which is determined by the *Outdoor Sensor* temperature and humidity data when the temperature is between 26°C and 50°C

Heat Index range	Warning	Explanation
27°C to 32°C (80°F to 90°F)	Caution	Possibility of heat exhaustion
33°C to 40°C (91°F to 105°F)	Extreme Caution	Possibility of heat dehydration
41°C to 54°C (106°F to 129°F)	Danger	Heat exhaustion likely
≥55°C (≥130°F)	Extreme Danger	Strong risk of dehydration / sun stroke

Weather Forecast

The built-in barometer continually monitors atmosphere pressure. Since variation in atmospheric pressure greatly affected by weather, it is possible to forecast the weather by measuring the changes in pressure. Based on the data collected, it can predict the weather conditions in the forthcoming 12~24 hours within a 30~50km radius.

Sunny   Partly cloudy   Cloudy   Rainy   Rainy / Stormy   Snowy

ⓘ The accuracy of a general pressure-based weather forecast is approximately 70-75%

ⓘ Forecast is reflecting the weather situation for next 12~24 hours, it may not necessarily reflect the current situation

ⓘ **SNOWY** forecast is not based on the atmospheric pressure, but based on outdoor temperature below -3°C

Barometric Pressure

The atmospheric pressure is the pressure at any location of the earth caused by the weight of the column of air above it. This refers to the average pressure and gradually decreases as altitude increases.

ⓘ In *Normal Mode*, press **BARO** to change barometer units in this sequence: **hPa ❯ inHg ❯ mmHg**

ⓘ To set absolute or relative barometric pressure, in *Normal Mode*, press and hold **BARO** to switch between **ABSOLUTE** and **RELATIVE** barometric pressure

Rainfall

1. To set rainfall units, press and hold **RAIN** for two seconds

2. Press ⌃ ◑ or ⌄ **INDEX** to toggle between **mm** and **in** (rainfall) or **mm/h** and **in/h** (rain rate)

3. Press **RAIN** to confirm and exit

ⓘ In *Normal Mode*, press **RAIN** to toggle between:
HOURLY: total rainfall in the past hour
DAILY: total rainfall from midnight (default)
WEEKLY: the total rainfall of the current week
MONTHLY: the total rainfall of the current month
TOTAL: the total rainfall since the last reset
RATE: Current rate (last 10 minutes of rain data)

Rainfall (continued)

Rain Rate Level Definition:

Level 1:
Light rain
0.1~ 2.5 mm/h

Level 2:
Moderate
2.51 ~ 10.0 mm/h

Level 3:
Heavy rain
10.1 ~ 50.0 mm/h

Level 3
Violent rain:
> 50.0 mm/h
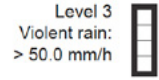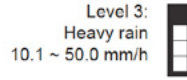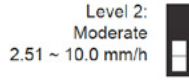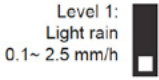
ⓘ To reset the total rainfall record, in *Normal Mode*, press and hold **HISTORY** for two seconds

ⓘ To ensure correct data, please reset all the rainfall records when installing your *Outdoor Sensor* to a new location

Sun Data

ⓘ Press the **SUN** to cycle through sun data modes in the following sequence:
LIGHT (intensity) ❯ **UV INDEX** ❯ **SUNBURN TIME**

ⓘ In *Light Mode*, press and hold **SUN** for two seconds to change units, and press ⌃ ◑ or ⌄ **INDEX** to edit in the following sequence: **klx** ❯ **kfc** ❯ **W/m²**, then press **SUN** to confirm and exit

ⓘ In *UV Index Mode*, corresponding exposure level and suggested protection indicator are also displayed

ⓘ *Sunburn Time Mode* shows the recommended sunburn time according to current UV level

Exposure level	Low		Moderate			High		Very high			Extreme	
UV index	1	2	3	4	5	6	7	8	9	10	11	12~16
Sunburn time	N/A		45 minutes			30 minutes		15 minutes			10 minutes	
Recommended protection indicator	N/A		Moderate or high UV level! Suggest to wear sunglasses, broad brim hat and long-sleeved clothing.					Very high or Extreme UV level! Suggest to wear sunglasses, broad brim hat and long-sleeved clothing, If you have to stay outdoors, make sure to seek shade.				

Max/Min Data Record

The *Main Console* can record the accumulated max/min weather data with a corresponding time stamp

ⓘ To view this data in *Normal Mode*, press **MAX/MIN** to display in the following sequence:
OUTDOOR MAX TEMPERATURE ❯ **OUTDOOR MIN TEMPERATURE** ❯ **OUTDOOR MAX HUMIDITY** ❯ **OUTDOOR MIN HUMIDITY** ❯ **INDOOR CURRENT CHANNEL MAX TEMPERATURE** ❯ **INDOOR CURRENT CHANNEL MIN TEMPERATURE** ❯ **INDOOR CURRENT CHANNEL MAX HUMIDITY** ❯ **INDOOR CURRENT CHANNEL MIN HUMIDITY** ❯ **MAX AVERAGE WIND SPEED** ❯ **MAX GUST** ❯ **MAX FEELS LIKE** ❯ **MIN FEELS LIKE** ❯ **MAX DEW POINT** ❯ **MIN DEW POINT** ❯ **MAX HEAT INDEX** ❯ **MIN HEAT INDEX** ❯ **MAX WIND CHILL** ❯ **MIN WIND CHILL** ❯ **MAX UV INDEX** ❯ **MAX LIGHT INTENSITY** ❯ **MAX RELATIVE PRESSURE** ❯ **MIN RELATIVE PRESSURE** ❯ **MAX ABSOLUTE PRESSURE** ❯ **MIN ABSOLUTE PRESSURE** ❯ **MAX RAIN RATE**

Operation and Settings (continued)

Max/Min Data Record (continued)

ⓘ To clear the max/min records, press and hold **MAX/MIN** for two seconds

ⓘ The *LCD Display* will also show the **MAX/MIN**, **HISTORY** icons, data records time and date

Past 24 Hours History Data

The *Main Console* automatically stores the weather data of the past 24 hours.

ⓘ Press **HISTORY** to check the current hour weather data

ⓘ Continue pressing **HISTORY** key to view older readings of the past 24 hours

ⓘ The LCD will also display the **HISTORY** icon, history data records with time and date

Weather Alert Setting

WEATHER ALERT can alert you of certain weather conditions. Once the alert criterion is met, the alarm sound will activate and the alert icon will flash

1. To set an alert, press **ALERT** to select and display the desired weather alert reading in the sequence listed in the table below:

Alert reading Sequence	Setting Range	Display Section	Default
Outdoor Temperature High Alert	-40°C ~ 80°C	Outdoor temperature & humidity	40°C
Outdoor Temperature Low Alert			0°C
Outdoor Humidity High Alert	1% ~ 99%		80%
Outdoor Humidity Low Alert			40%
Indoor Current Channel Temperature High Alert	-40°C ~ 80°C	Indoor CH temperature & humidity	40°C
Indoor Current Channel Temperature Low Alert			0°C
Indoor Current Channel Humidity High Alert	1% ~ 99%		80%
Indoor Current Channel Humidity Low Alert			40%
Average Wind Speed	0.1m/s ~ 50m/s	Wind direction & speed	17.2m/s
Feels Like High Alert	-65°C ~ 50°C	Weather index	20°C
Feels Like Low Alert			0°C
Dewpoint High Alert	-40°C ~ 80°C		10°C
Dewpoint Low Alert			-10°C
Heat Index High Alert	26°C ~ 50°C		30°C
WindChill Low Alert	-65°C ~ 18°C		0°C
UV index High Alert	1 ~16	UV & light intensity	10
Light intensity High Alert	0.01 ~ 200.0Klux		100Klux
Pressure Drop	1hPa ~ 10hPa	Barometer	3hPa
Hourly Rainfall	1mm ~ 1000mm	Rainfall	100mm

Operation and Settings (continued)

Weather Alert Setting (continued)

2. Under the current alert reading, press and hold **ALERT** for two seconds, then the setting and alert reading will flash

3. Press ⌃ ◗ or ⌄ **INDEX** to adjust the value or press and hold to change rapidly

4. Press **ALERT** to confirm the value

5. Press **ALARM** to toggle the regarding alert on or off

6. Press **ALERT** to shift to the next alert reading

7. Press any key on the front side of the *Main Console* to save alert on/off status and go back to *Normal Mode*, or it will automatically revert back to *Normal Mode* after 30 seconds

ℹ To silence the alert alarm, press **ALARM/SNOOZE** to silence the alert alarm or let the alarm automatically turn off after two minutes

ℹ Once the alert is triggered, the alarm will sound for two minutes and the related alert icon and readings will flash

ℹ If the alert alarm is automatically off after two minutes, the alert icon and readings will still keep flashing until the weather reading is out of the alert range

Backlight

The main unit backlight can be adjusted, using the **OFF/HI/LO** slider to select the appropriate brightness

ℹ Slide to the **HI** position for the brighter backlight

ℹ Slide to the **LO** position for the dimmer backlight

ℹ Slide to the **OFF** position turn off the backlight

Display Contrast

ℹ Press ⌃ ◗ in *Normal Mode* to adjust *LCD Display* contrast

Maintenance

Battery Replacement

When low battery indicator 🔋 is displayed in the **OUT** or **IN** section of the *LCD Display*, indicates that the respective *Outdoor* or *Indoor Sensor* battery power is low. Please replace with new batteries.

Solar Pro Outdoor Sensor

REPLACE THE WIND VANE
Unscrew and remove the wind vane for replacement

REPLACE THE WIND CUP
1. Unscrew and remove the top cap
2. Remove the wind cup for replacement

CLEANING HYGRO-THERMO SENSOR
1. Remove the 2 screws at the bottom of the radiation shield.
2. Gently pull out the shield.
3. Carefully remove any dirt or insects on the sensor and ventilation fan (do not let the sensors inside get wet).
4. Clean the shield with water to remove any dirt or insects.
5. Install all the parts back when they are clean and fully dried.
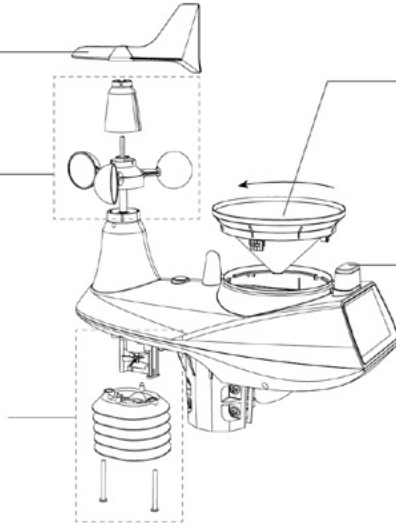
CLEANING THE RAIN COLLECTOR
1. Rotate the rain collector by turning it 30°anti-clockwise.
2. Gently remove the rain collector.
3. Clean and remove any debris or insects.
4. Install the collector when it is clean and fully dried.

CLEANING THE UV SENSOR AND CALIBRATION
- For precision UV measurement, gentle clean the UV sensor cover lens with damp micro-fiber cloth.
- Over time, the UV sensor will naturally degrade. The UV sensor can be calibrated with a utility grade UV meter, please refer to Calibration section in previous page for about the UV sensor cablibration.

Specifications

Main Console

General	
Dimensions (W×H×D)	215 × 172 × 29mm
Weight	639g (with batteries)
Main power	DC 5V, 1A adaptor
Backup battery	3 × AAA size 1.5V batteries (alkaline recommended)
Operating temperature range	-5°C ~ 50°C

Wi-Fi	
Wi-Fi standard	802.11 b/g/n
Wi-Fi operating frequency	2.4GHz
Supported router security type	WPA/WPA2, OPEN, WEP (WEP only supports hexadecimal passwords)
Supported device for setup UI	Built-in Wi-Fi with **AP Mode** function smart devices, laptops or desktops: Android smart phone, Android pad, iPhone, iPad or Windows laptop
Recommended web browser for setup UI	Web browsers that support HTML 5, such as the latest version of Chrome, Safari, IE, Edge, Firefox or Opera.

Wireless Sensor	
Support sensors	1× Solar Pro Outdoor Sensor and up to 7× Hygro-Thermo Indoor Sensors
RF frequency	917Mhz
RF transmission range	150m

Time	
Time display	HH:MM:SS
Hour format	12hr AM/PM or 24hr
Date display	DD/MM or MM/DD
Time synchronise method	Through Internet time server to synchronise the UTC
Weekday languages	EN/DE/FR/ES/IT/NL/RU
Time Zone	+13 ~ -12 hour

Barometer	
Barometer unit	hPa, inHg and mmHg
Measuring range	540 ~ 1100hPa (relative setting range 930 ~ 1050hPa)
Accuracy	(700 ~ 1100hPa ± 5hPa)/(540 ~ 696hPa ± 8hPa) (20.67 ~ 32.48inHg ± 0.15inHg)/(15.95 ~ 20.55inHg ± 0.24inHg) 525 ~ 825mmHg ± 3.8mmHg)/(405 ~ 522mmHg ± 6mmHg) Typical at 25°C (77°F)
Resolution	1hPa/0.01inHg/0.1mmHg
Weather forecast	Sunny/Clear, Slightly Cloudy, Cloudy, Rainy, Rainy/Stormy and Snowy
Display modes	Current
Memory modes	Historical data of past 24 hours, daily Max/Min
Alarm	Pressure change alert

Indoor/Outdoor Temperature	
Temperature unit	°C and °F
Display range	-40 ~ 80°C (-40 ~ 176°F)
Accuracy	55~60°C ± 0.5°C (131~140°F ± 0.9°F) 10~55°C ± 0.4°C (50~131°F ± 0.7°F) -20~10°C ± 1.3°C (-4~50°F ± 2.3°F) -40~-20°C ± 1.9°C (-40~-4°F ± 3.4°F)
Resolution	°C / °F (1 decimal place)
Display modes	Current
Memory modes	Historical data of past 24 hours, daily Max/Min
Alarm	Hi/Lo temperature alert

Indoor/Outdoor Humidity	
Humidity unit	%
Display range	0 ~ 100%
Accuracy	1~20% RH ± 6.5% RH @ 25°C 21~80% RH ± 3.5% RH @ 25°C 81~99% RH ± 6.5% RH @ 25°C
Resolution	1%
Display modes	Current
Memory modes	Historical data of past 24 hours, daily Max/Min
Alarm	Hi/Lo Humidity Alert

Specifications (continued)

Wind Speed and Direction	
Wind speed unit	*mph, m/s, km/h and knots*
Wind speed display range	*0 ~ 112mph, 50m/s, 180km/h, 97knots*
Resolution	*mph, m/s, km/h and knots (1 decimal place)*
Speed accuracy	*< 5m/s: +/- 0.5m/s; > 5m/s: +/- 6% (whichever is greater)*
Display mode	*Gust/Average*
Memory modes	*Historical Data of past 24 hours, daily Max Gust/Average*
Alarm	*Hi Wind Speed Alert (Average/Gust)*
Direction display modes	*16 directions or 360 degree*

Rain Display	
Unit for rainfall	*mm and in*
Accuracy for rainfall	*± 7%*
Range of rainfall	*0 ~ 19999mm (0 ~ 787.3 in)*
Resolution	*0.254mm (3 decimal place in mm)*
Display modes	*Current*
Memory modes	*Historical Data of the past 24 hours, daily Max*
Rainfall display mode	*Hourly/Daily/Weekly/Monthly/Total rainfall*
Alarm	*Hi Daily Rainfall Alert*

UV Index	
Display range	*0 ~ 16*
Resolution	*1 decimal place*
Display mode	*UV index, sunburn time*
Memory modes	*Historical Data of past 24 hours, Max*
Alarm	*Hi UV Alert*

Light Intensity	
Light intensity unit	*klx, kfc and W/m²*
Display range	*0 ~ 200Klux*
Resolution	*klx, kfc and W/m² (2 decimal place)*
Memory modes	*Historical Data of past 24 hours, Max*
Alarm	*Hi Light Intensity Alert*

Weather Index	
Weather index mode	*Feels like, Wind Chill, Heat Index and Dew point*
Feels like display range	*-65 ~ 50°C*
Dew point display range	*-20 ~ 80°C*
Heat index display range	*26 ~ 50°C*
Wind chill display range	*-65 ~ 18°C (wind speed >4.8km/h)*
Display modes	*Current*
Memory modes	*Historical Data of past 24 hours, Max/Min*
Alarm	*Feels like Hi/Lo Alert; Dew Point Hi/Lo Alert; Heat Index Hi Alert, Wind Chill Lo Alert*

Solar Pro Outdoor Sensor

General	
Dimensions (W × H × D)	*370.5 × 334 × 144.5mm*
Weight	*1096g (with batteries)*
Main power	*3× AA size 1.5V batteries (Lithium batteries recommended)*
Weather data	*Temperature, Humidity, Wind Speed, Wind Direction, Rainfall, UV and Light Intensity*
RF transmission range	*150m*
RF frequency	*917Mhz*
Transmission interval	*12 seconds for UV, light intensity, wind speed and wind direction data 24 seconds for temperature, humidity and rain data*
Operating range	*-40~60°C Lithium batteries required*

Wireless Hygro-Thermo Indoor Sensor

General	
Dimensions (W × H × D)	*61 × 113 × 39.5mm (2.4 × 4.4 × 1.6in)*
Weight	*144g (with batteries)*
Main power	*2 × AA size 1.5V batteries (alkaline recommended)*
Weather data	*Temperature and Humidity*
RF frequency	*917Mhz (AU)*
RF transmission range	*150m*
Transmission interval	*60 seconds*
Operating range	*-40~60°C Lithium batteries required*

Troubleshooting

Outdoor Sensor connection is intermittent or non-existent

- ✅ Ensure the **_Outdoor Sensor_** is within the transmission range
- ✅ Reset the **_Outdoor Sensor_** and resynchronise with the **_Main Console_**

Indoor Sensor connection is intermittent or non-existent

- ✅ Ensure the **_Indoor Sensor_** is within the transmission range
- ✅ Ensure the channel shown on the **_LCD Display_** matches to the channel selection on the **_Indoor Sensor_**
- ✅ Reset the **_Indoor Sensor_** and resynchronise with the **_Main Console_**

No Wi-Fi connection

- ✅ Check for the Wi-Fi symbol 📶 on the **_LCD Display_**; it should be always on
- ✅ Ensure your **_Main Console_** is connected to the 2.4GHz band and not the 5GHz band of your Wi-Fi router

Data not reporting to _Weather Underground_

- ✅ Ensure your **STATION ID** and **STATION KEY** are correct
- ✅ Ensure the date and time is correct on the tablet, as you may be reporting old data, not real time data
- ✅ Ensure your time zone is set correctly, as you may be reporting old data, not real time data
- ✅ Ensure the time zone of the device on **_Weather Underground_** is set correctly
- ✅ Ensure the time zone on your **_Main Console_** is correct

Weather Underground Precip. Accum. Total graph offset 1 hour reset time, during summer DST

- ✅ Ensure the time zone of the device on **_Weather Underground_** is set correctly
- ✅ Ensure the time zone on your **_Main Console_** is correct
- ✅ As this device does not have daylight savings functions, ensure your weather station is registered outside of the United States in **_Weather Underground_**

Warranty

3 Year Replacement Guarantee

Holman offers a 3 year replacement guarantee with this product.

In Australia our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

As well as your statutory rights referred to above and any other rights and remedies you have under any other laws relating to your Holman product, we also provide you with a Holman guarantee.

Holman guarantees this product against defects caused by faulty workmanship and materials for 3 years domestic use from the date of purchase. During this guarantee period Holman will replace any defective product. Packaging and instructions may not be replaced unless faulty.

In the event of a product being replaced during the guarantee period, the guarantee on the replacement product will expire 3 years from the purchase date of the original product, not 3 years from the date of replacement.

To the extent permitted by law, this Holman Replacement Guarantee excludes liability for consequential loss or any other loss or damage caused to property of persons arising from any cause whatsoever. It also excludes defects caused by the product not being used in accordance with instructions, accidental damage, misuse, or being tampered with by unauthorised persons, excludes normal wear and tear and does not cover the cost of claiming under the warranty or transporting the goods to and from the place of purchase.

Should you suspect your product may be defective and need some clarification or advice please contact us directly:

1300 716 188
support@holmanindustries.com.au
11 Walters Drive, Osborne Park 6017 WA

If you are certain your product is defective and is covered by the terms of this warranty, you will need to present your defective product and your purchase receipt as proof of purchase to the place you purchased it from, where the retailer will replace the product for you on our behalf.

Thanks for being a
#SMARTGARDENER

We really appreciate having you as a customer, and would like to say thank you for choosing us.

We recommend registering your new product on our website. This will ensure we have a copy of your purchase and activate an extended warranty. Keep up to date to with relevant product information and special offers available through our newsletter.

www.holmanindustries.com.au/product-registration/

Thanks again for choosing Holman

HOLMAN

For the #SMARTGARDENER