



microSpider Quick Start Guide

V1.6

This guide is not a replacement for the User Manual. Please refer to the manual on the supplied CD for full details.

A new microSpider is shipped without a SIM card and with the main battery disconnected from the circuit.

Package Contents:

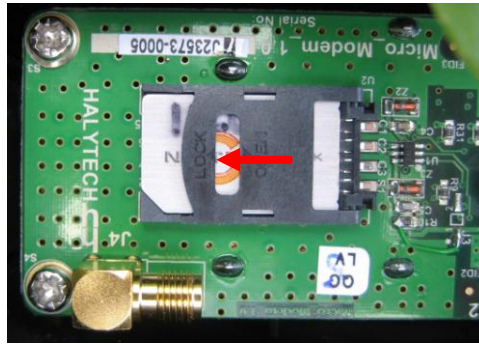
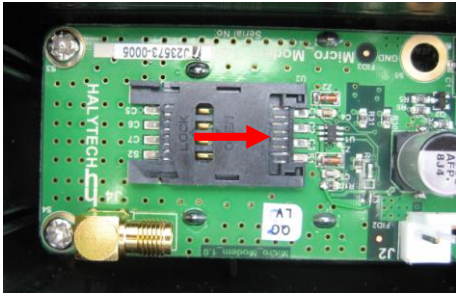
Item	Quantity	Checked
microSpider	1	
Comms Cable		
I/O Connector		
I/O Cover		
Manual, CD	1	
Packed By:		

Installing a SIM card

1. You need a SIM card to receive automatic e-mail and/or FTP reports from your microSpider.
Halytech can provide fully functioning SIM cards for you.
If you want to source your own SIM card, contact your preferred mobile phone carrier and ensure that the SIM card is provisioned with a plan enabling internet access.
2. Put the SIM card in a standard mobile phone and disable any PINs
3. Remove the metal bar protecting the circuit board by gently lifting it out of the grooves.
4. If connected, disconnect the battery from the circuit board by squeezing the locking latch and gently pulling the connector upwards.
5. Slide the SIM card cover holder to the "OPEN" position and lever it upwards on its hinge to open it. Slide the SIM card into the groove of the cover, observing the proper notch orientation. Close the cover. Once closed, gently slide the cover into the "LOCK" position.

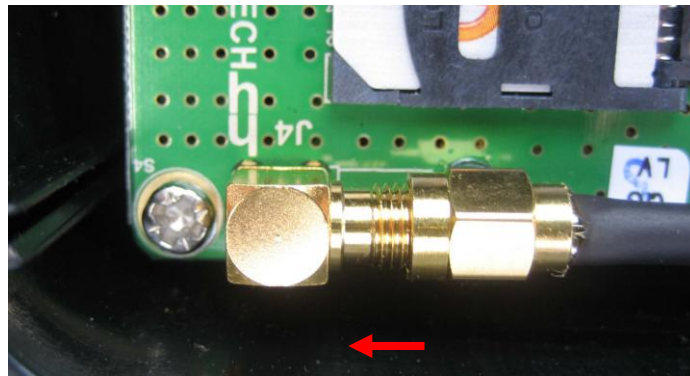
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PO Box 6983 Baulkham Hills Business Centre NSW 2153

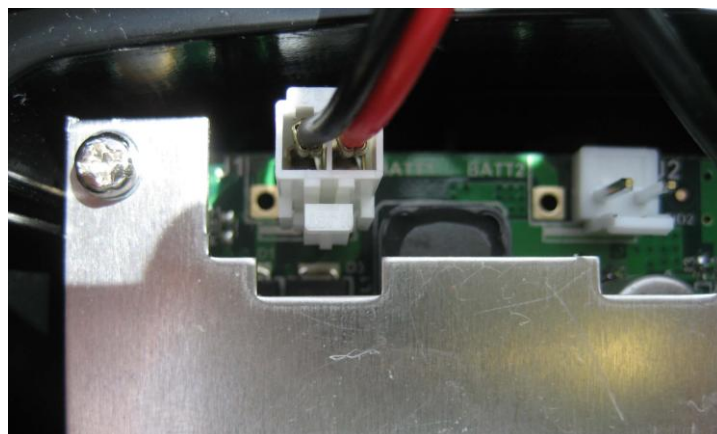


Connecting Antenna and Power

1. Connect the antenna lead by screwing the flying lead connector onto the gold circuit board antenna connector – finger tight only.



2. Connect the battery lead by pushing it onto a free battery connector on the circuit board – usually BATT1, until it clicks into place.

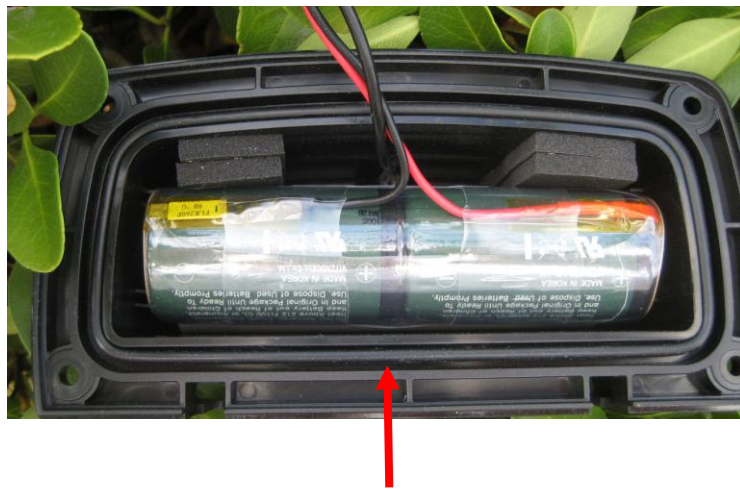


3. EXTERNAL ANTENNA UNITS ONLY

These units are fitted with an SMA male connector on the top of the case. Once the external antenna is connected, it is recommended to seal the connection by using self-vulcanising rubber tape.

Case Assembly

1. Re-Insert the metal bar protecting the circuit board into the case grooves.
2. Insert the oiled O-ring into the battery half of the case, inside the groove.



3. Assemble the two halves and insert the four screws and nuts.
If the O-ring is correctly aligned it should require some compression for the two halves to close together. It is easy for the O-ring to become misaligned when joining the two halves. Ensure that it remains in the correct location.
Do not over-tighten the screws.



Connecting Inputs and Outputs

I/O CONNECTOR 1

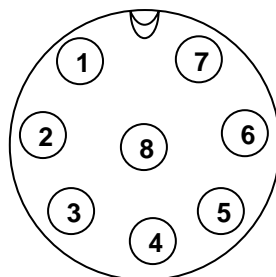
PIN	FUNCTION	COMMENT
1	SWITCH 1 / COUNTER 1 / QUADRATURE 1A	Active is short to GROUND
2	ANALOGUE 1 / TAMPER 1	0 – 2.5V range / active is short to GND
3	GROUND	
4	SWITCH 2 / COUNTER 2 / QUADRATURE 1B	Active is short to GROUND
5	ANALOGUE 2 / TAMPER 2	0 – 2.5V range / short to GND
6	GROUND	
7	SWITCHED POWER OUT	Driven by CONTROL 1, max 1A
8	EXTERNAL POWER IN	Nominal 12V, maximum 24V

I/O Connector 1 is located in the middle of the case.

I/O CONNECTOR 2

PIN	FUNCTION	COMMENT
1	SWITCH 3 / COUNTER 3 / QUADRATURE 2A	Active is short to GROUND
2	ANALOGUE 3 / TAMPER 3	0 – 2.5V range / short to GND
3	GROUND	
4	SWITCH 4 / COUNTER 4 / QUADRATURE 2B	Active is short to GROUND
5	ANALOGUE 4 / TAMPER 4	0 – 2.5V range / short to GND
6	GROUND	
7	OPEN COLLECTOR OUTPUT	Driven by CONTROL 2, nom 10 mA
8	INTERNAL LOW VOLTAGE SENSOR POWER SUPPLY	User selectable as 3.3V or 5V, supplied by internal battery

I/O Connector 2 is located on the right hand side of the case when viewed from the front.



BACK (SOLDER) END VIEW

Pin numbers are as shown above, when looking at the back (solder end) of the connector with the notch facing upwards. Both connectors have identical pinouts.



Using the connectors provided -

1. Connect Inputs as per manual
 - a. Switch, counter, quadrature and tamper inputs - connected directly to appropriate input and GROUND.
 - b. 4-20mA – connect supplied 120 Ohm resistor across appropriate input and GROUND
 - c. Voltage inputs with a range of up to 2.5V – connected directly
 - d. Voltage inputs with a range over 2.5V – connected via dividing resistors (not supplied)
2. “SWITCHED POWER OUT” on I/O Connector 1 can be used to power sensors from an external power supply connected to “EXTERNAL POWER IN”. The microSpider will switch the power to the sensor when required. If an external power supply is connected, it will also power the microSpider in preference to its internal battery pack as long as its voltage is above approximately 7.5V
3. “OPEN COLLECTOR OUTPUT” on I/O Connector 2 can be used to control external devices such as samplers and power supplies. When activated, this output will create a connection to GROUND through a 440 Ohm resistor.
4. “INTERNAL LOW VOLTAGE SENSOR POWER SUPPLY” on I/O Connector 2 can be used to power low power sensors directly from the microSpider internal battery pack. This output is user settable as either 3.3V or 5V and is current limited to approximately 25mA. Please note that using this power supply will increase the system power consumption, reducing the battery life.
5. Prior to leaving a site, you must ensure that any unused I/O connector and the communications connector are fitted with supplied sealing caps to prevent contact contamination.

Connecting the microSpider to your PC

1. You must use the special microSpider Communications Y-cable.
2. Turn your computer on and disconnect it from your network.
3. Plug the round connector end of the cable into the communications connector of the microSpider. (When viewed from the front, the communication connector is on the left.)



4. Connect the Y-end of the cable into your computer by plugging the RJ-45 connector into the LAN port and plugging the USB connector into a free USB port.
5. Wait 60 seconds.
6. Open a browser program on your PC and request the following page:
<http://192.168.0.177>
7. Log in, User Name is "user" and Password is "changeme" (without inverted commas)

Please note: while your PC is connected as described above, it will supply the power to the microSpider. Therefore, there is no need to minimise PC connection times – the internal battery pack will be unaffected, by their duration. The only exception to this is modem operation. The internal battery pack is always supplying the power to the modem. (You will be notified in your browser when the modem is turned ON.)

Configuring Your microSpider

Once you have logged in, select “Change Setup” and

1. Set location – to your site name
2. Set date and time
3. Set username and password for security
4. Configure and name the Inputs to suit
5. Calibrate any Analogue Inputs
6. Set scaler and offset for any Counter or Event Inputs
7. Set Control names and setup any associated timer sequences
8. Set up Alarms and what you want to happen on the alarm
9. Set up Network parameters
10. Set up E-mail parameters
11. Set up your automatic reports

Testing your microSpider

Once you have set up and configured your microSpider, you can test its input, output and communications functionality

Inputs and outputs are tested in the “normal” manner by connecting real or simulated sensors and observing the readings on relevant web pages.

Modem communications can be tested through the web browser by accessing the “Change Settings -> Modem Diagnostics” page. It provides sophisticated interactive diagnostics capable of testing most of microSpider communication features.