Wireless on Water, LLC
Wireless on Wheels USA

Series 2000 Intelligent Processing Modules
Series 3000 Intelligent Processing Modules

Seven function Remote On/off Board (ROB)

OWNERS MANUAL

IPM Serial Number:
ROB # 1 Serial Number:
Optional ROB # 2 Serial Number:
Optional ROB # 3 Serial Number:

PLEASE KEEP – DO NOT DISGUARD OR DESTROY

Safety Precautions & FCC Notice

The lightning flash and arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying this appliance.

WARNING : TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. DANGEROUS HIGH VOLTAGES ARE PRESENT INSIDE THE ENCLOSURE. DO NOT OPEN THE CASE. REFER SERVICING TO QUALIFIED PERSONNEL ONLY.

FCC NOTICE: This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

WARNING: Changes or modifications made to this equipment, not expressly approved by WOW could void the user's authority to operate the equipment.

Important Safety Instructions

1) Read these instructions.
2) Keep these instructions. Do not discard.
3) Heed all warnings.
4) Follow all instructions.
5) Only install the Intelligent Processing Module in an area that is dry and protected from excessive moisture.
6) Clean only with a dry cloth.
7) Install in accordance with instructions provided.
8) Do not install near any heat source.
9) Do not install in a location that is exposed to direct sunlight.
10) Only use attachments and accessories specified by WOW.
11) Refer all servicing to qualified personnel.
12) Never overload circuits.
13) If the appliance should ever emit smoke or an unusual odor, immediately disconnect the power from the Intelligent Processing Module.

Wireless On Water – Introduction

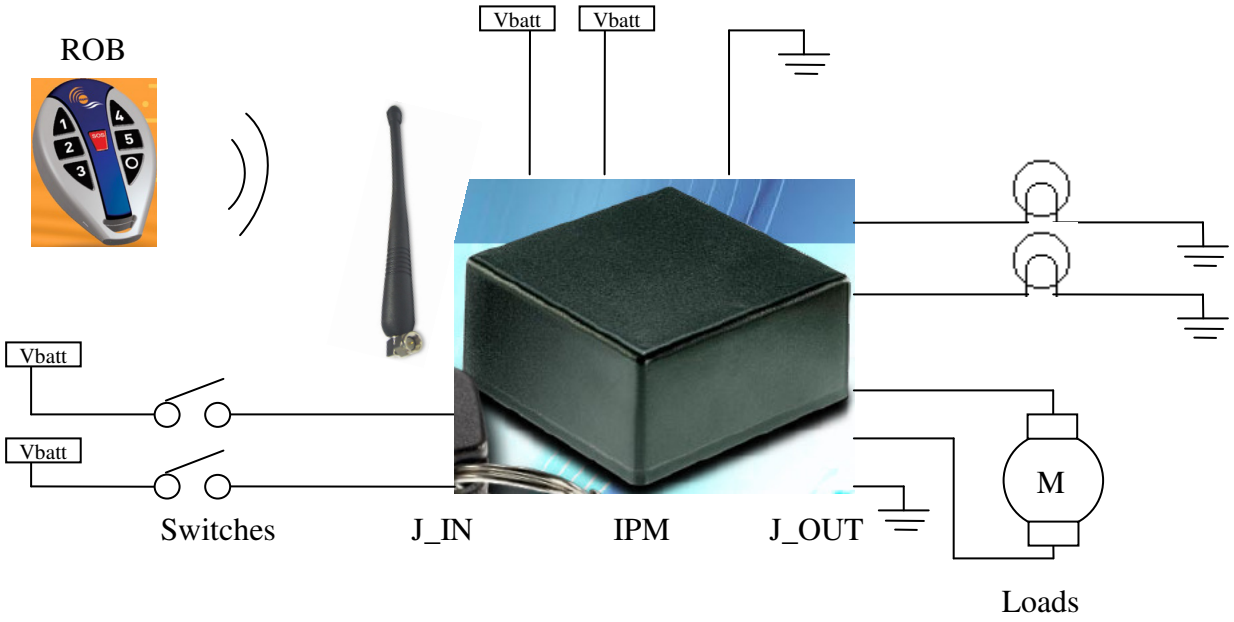
The Wireless on Water / Wireless on Wheels (WOW) system is a state-of-the-art Radio Frequency control system that allows for the activation and control of any number of appliances or accessories found on watercraft, recreational vehicles, farm equipment, xxxxxxxx. While it incorporates sophisticated electronic circuitry, it has been designed to allow for straight forward installation by anyone who would be capable of installing a newer car stereo. A certain amount of planning is required to make the installation progress smoothly.

The WOW control system consists of:

A) ROB transmitter – remote for accessing the controlled loads
B) IPM module – Intelligent Processing Module that controls the loads

C) IPM Harnesses – Route the signals to switches, loads, and power
D) Loads – These include lamps, radios, motors, relays, etc

Once the system is installed correctly, the operator is able to control the loads with both the ROB transmitter and the existing mechanical switches. The operator is able to turn the load on with the switch, then off with the remote, and visa vera.

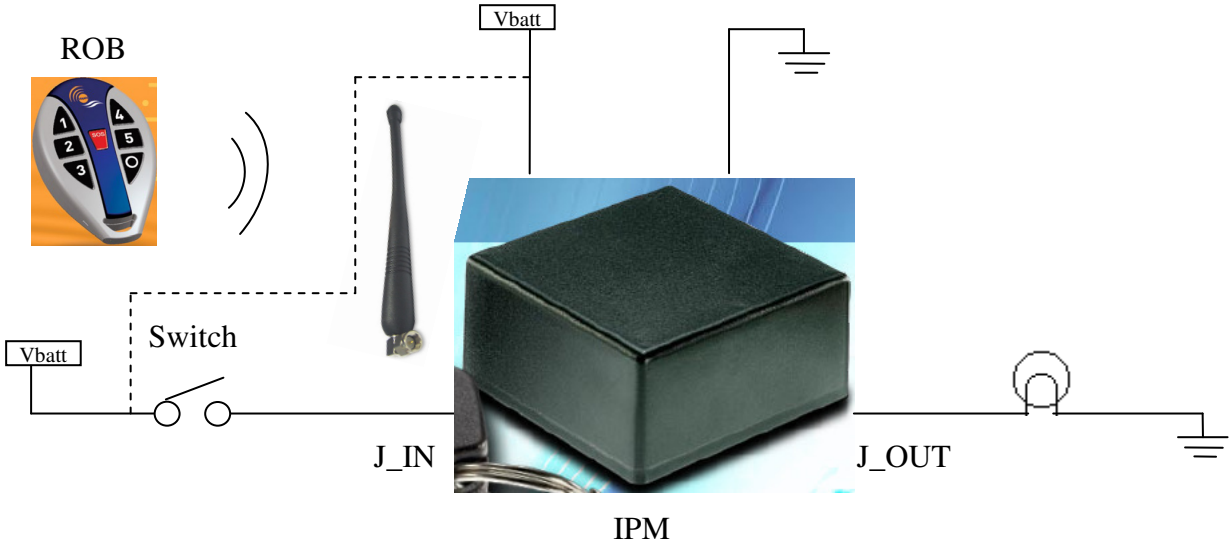


The system works by adding the IPM control system in between the wire going to the existing switch. This is the way each of the loads is connected to the IPM.

Warning: When installing the IPM to a motor or actuator that makes something move, a secondary lockout mechanism to protect against inadvertent activation of the device is the responsibility of the installer.

Existing Lamp installation:

IPM Lamp installation:



As you can see, in the IPM installation, the wire from the switch to the load is connected to J_IN on the IPM. The wire to the lamp is connected to Jout on the IPM. The IPM also has connection to power and ground (Power can come right from the power side of the switch as shown in the dashed line above)

The IPM can be removed from this setup and the J_IN and J_OUT connectors plugged together and the system works just like the existing. The addition of the IPM provides protection to the load and wireless remote control from the ROB.

TABLE OF CONTENTS

Getting Started

Operating your WOW System

Troubleshooting

Care and Cleaning

Other Information

Warranty ……

The WOW Product line

Series 2000 Intelligent Processing Module

Series 3000 Intelligent Processing Module

Seven button Remote On/off Board (ROB)

What's Included

One (1) Intelligent Processing Module (IPM)
One (1) Seven button Remote (ROB)
One (1) IPM Harness

Tools Needed

Xxxxxx
Xxxxxx
Xxxxxx
Xxxxxx

Optional Accessories

Additional remotes (ROB's)

IPM Antenna extension cable (8') – Model #

High current relays

Remote On/off Node (RON) – A/C

Remote On/off Node (RON) – D/C

Step 1 - Decide what circuits in the vehicle that you want to control

This step is used to make the rest of the installation go smoother. There are several types of circuits that can be controlled by the IPM.

a) Lamp loads – up to 15A, dimming capable (PWM), sources Vbatt to the lamp, turned on/off to 100% with mechanical switch, dimming by ROB by pressing and holding corresponding button.
b) On/Off loads – up to 15A, sources Vbatt to the load, turned on/off to 100% with mechanical switch, turned on/off to 100% with corresponding ROB button.
c) Unidirectional Motor – up to 15A current, Drive motor in one direction, turned on/off to with mechanical switch, turned on by pressing and holding corresponding single ROB button.
d) Bidirectional Motor - up to 15A current, Drives motor in both directions, uses H-bridge configuration, driven each direction by holding one of two mechanical switches, driven each direction by holding one of two corresponding ROB buttons.
e) Relay – The relay coil should be rated for the voltage that the system operates. Should only be connected to on/off outputs. The contact side of the relay is the installer's responsibility.
f) Horn – This output is controlled by the SOS button on the ROB. This is wired in parallel with the existing horn switch.
g) Mast (or other) Light – This 2A output is activated when an RF transmission from the ROB is received by the IPM. Sources Vbatt to the load.

The inputs / outputs from the IPM are as follows:

Connector - Pin	Description	Operation	Notes	User Connection Notes
J_IN-1	INPUT1 – AUXB input (active high, 12VDC turns on)	(12V in turns on OUT1, open/gnd turns off OUT1)	When configured to bi-directional motor output, OUT-2 turns off when OUT-1 turns on	
J_IN-2	INPUT 2 – AUXA input (active high, 12VDC)	(12V turns on OUT2, open/gnd turns off OUT2)	When configured to bi-directional motor output, OUT-1 turns off when OUT-2 turns on	
J_IN-3	INPUT 3 – MotorB input (active high, 12VDC)	(12V turns on OUT3, open/gnd turns off OUT1)	When configured to bi-directional motor output, OUT-4 turns off when OUT-3 turns on	
J_IN-4	INPUT 4 – MotorA input (active high, 12VDC)	(12V turns on OUT4, open/gnd turns off OUT2)	When configured to bi-directional motor output, OUT-3 turns off when OUT-4 turns on	

J_IN-5	Ground Connection for IPM logic and RF	Connect to dedicated GND for IPM		
J_IN-6	INPUT 6 – Light (active high, 12VDC)	(12V turns on OUT6, open/gnd turns off OUT6)	Always sources current	
J_IN-7	INPUT 7 – Radio (active high, 12VDC)	(12V turns on OUT7, open/gnd turns off OUT7)	Always sources current	
J_IN-8	INPUT 8 – Radio (active high, 12VDC)	(12V turns on OUT8, open/gnd turns off OUT8)	Always sources current	
J_OUT-1	OUTPUT1 – AuxB out (On when IN1 on or keyfob button 5 activation)	(Sources 12V from PWR1/2 when on) (Connected to Relay GND when off) 10 Amp maximum DC current	J_OUT1,2,3,4 outputs are connected to relay GND when off. Relay GND must be connected to GND if J_OUT1 used	
J_OUT-2	OUTPUT2 – AuxA out(On when IN2 on or keyfob button 1 activation)	(Sources 12V from PWR1/2 when on) (Connected to Relay GND when off) 10 Amp maximum DC current	J_OUT1,2,3,4 outputs are connected to relay GND when off. Relay GND must be connected to GND if J_OUT2 used	
J_OUT-3	OUTPUT3 – MotorB out (On when IN3 on or keyfob button 3 activation)	(Sources 12V from PWR3/4 when on) (Connected to Relay GND when off) 10 Amp maximum DC current	J_OUT1,2,3,4 outputs are connected to relay GND when off. Relay GND must be connected to GND if J_OUT3 used	
J_OUT-4	OUTPUT4 – AuxA out(On when IN4 on or keyfob button 1 activation)	(Sources 12V from PWR3/4 when on) (Connected to Relay GND when off) 10 Amp maximum DC current	J_OUT1,2,3,4 outputs are connected to relay GND when off. Relay GND must be connected to GND if J_OUT4 used	
J_OUT-5	Ground Connection for Relays (Out1,2,3,4)	Connect to dedicated GND for Relay outputs at Out1,2,3,4 20 A maximum if both motor outputs used		
J_OUT-6	OUTPUT6 – Light out(On when IN6 on or keyfob button 2 activation)	(Sources 12V from PWR6 when on) 15 Amp maximum DC current	J_OUT6 only sources power to the loads	

J_OUT-7	OUTPUT7 – Radio out (On when IN7 on or keyfob button 4 activation)	(Sources 12V from PWR7 when on) 15 Amp maximum DC current	J_OUT7 only sources power to the loads	
J_OUT-8	OUTPUT8 – Blower out (On when IN8 on or keyfob button 1 activation)	(Sources 12V from PWR8 when on) 15 Amp maximum DC current	J_OUT8 only sources power to the loads	
J_PWR-1	POWER input8 – Vbatt power for J_OUT8	Sources Vbatt (12V) to J_OUT8 15 Amp maximum DC current	Recommend that J_PWR-8 be connected to the switch power side power source	
J_PWR-2	POWER input7 – Vbatt power for J_OUT7	Sources Vbatt (12V) to J_OUT7 15 Amp maximum DC current	Recommend that J_PWR-7 be connected to the switch power side power source	
J_PWR-3	POWER input6 – Vbatt power for J_OUT6	Sources Vbatt (12V) to J_OUT6 10 Amp maximum DC current	Recommend that J_PWR-6 be connected to the switch power side power source	
J_PWR-4	Ground Connection for IPM logic and RF	Connect to dedicated GND for IPM 5 Amp maximum DC current	J_OUT1,2,3,4 outputs are connected to RELAY GND when off. Relay GND must be connected to GND if J_OUT1,2,3,4 used	
J_PWR-5	POWER input3/4 – Vbatt power for J_OUT3 and J_OUT4	Sources Vbatt (12V) to J_OUT3 and J_OUT4 outputs 10 Amp maximum DC current	Recommend that J_PWR-2 be connected to the switch power side power source	
J_PWR-6	POWER input1/2 – Vbatt power for J_OUT1 and J_OUT2	Sources Vbatt (12V) to J_OUT1 and J_OUT2 outputs 10 Amp maximum DC current	Recommend that J_PWR-1 be connected to the switch power side power source	
J_MISC-1	Ground Connection for IPM logic and RF	Connect to dedicated GND for IPM 5 Amp maximum DC current		Redundant Ground connection highly recommended
J_MISC-2	Ignition input for the IPM (active high, 12VDC turns on)	Vbatt (12V) turns on. Used to configure software timing	Can be used for motor lockout with special software. Consult factory	
J_MISC-3	HORN_OUT	Sources 12V (Vbatt) in	Morse Code SOS	Connect in parallel

		SOS morse code pattern when SOS button held for 1 second. 5A max current	pattern	with the existing horn via a relay (Most horns are over 5A)
J_MISC-4	MASTLIGHT_OUT	Sources 12V (Vbatt) for single flash for RF Rx on, double flash for RF Rx off. 2A max current		
J_MISC-5	Spare_OUT	Pulls down to IPM GND when any output is on, 200mA maximum current		
J_MISC-6	FAULT_OUT	Pulls down in the unlikely event of a fault in the module, 100mA max current		

Table 1 – Module pinout

Based on the table above and the wiring diagram in appendix A, assign the correct output to the desired control circuit.

Step 2 – Check the circuits to be controlled for acceptable operation

For each of the loads to be controlled, the switch in the vehicle should be located. The voltage should be measured to assure that the switch applies Vbatt (12V) to the load when the switch is on.

For each of the loads to be controlled, the "on" current should be measured with a "clip on" DC current meter. Assure that the current meets the requirements shown in Table 1.

Warning: If the currents exceed the capabilities called out in Table 1, module failure can occur.

Step 3 - Match the circuits to IPM outputs

Each of the IPM circuits is assigned a specific function in the software operation of the IPM. During the planning phase be sure that the operation of the feature matches the capability of the output including current capability, PWM capability, Motor drive capability.

The function of each of the outputs is summarized in the IPM Functional Table below. Verify your selected circuits to match them with the functionality of your version of the IPM.

IPM Functional Table

Connector - Pin	Description	Standard Operation		Single Motor Operation		Dual Motor Operation		User Connection Notes
		J_IN switch input	**ROB button input**	**J_IN switch input**	**ROB button input**	**J_IN switch input**	**ROB button input**	
J_OUT-1	OUTPUT1 – AuxB out (On when AUX is configured as dual motor)	No Operation	No Operation	No Operation	No Operation	J_IN-1 momentarily turns on J_OUT1 when activated, J_OUT1 is RELAY_GND when off.	ROB Button #6 momentarily turns on J_OUT1 when pushed, J_OUT1 is RELAY_GND when off.	J_OUT1,2,3,4 outputs are connected to relay GND when off. Relay GND must be connected to GND if J_OUT1 used
J_OUT-2	OUTPUT2 – AuxA out(On when IN2 on or keyfob button 1 activation)	J_IN-2 switches on J_OUT-2 when switch is on.	ROB button 6 switches on J_OUT-2 when switch is pressed once. Turns off when button is double pressed. Turned off when ALL OFF (Button #5 is pressed)	J_IN-2 switches on J_OUT-2 when switch is on.	ROB button 6 switches on J_OUT-2 when switch is pressed once. Turns off when button is double pressed. Turned off when ALL OFF (Button #5 is pressed)	J_IN-2 momentarily turns on J_OUT2 when activated, J_OUT2 is RELAY_GND when off.	ROB Button #4 momentarily turns on J_OUT2 when pushed, J_OUT2 is RELAY_GND when off.	J_OUT1,2,3,4 outputs are connected to relay GND when off. Relay GND must be connected to GND if J_OUT2 used
J_OUT-3	OUTPUT3 – MotorB out	J_IN-3 momentarily switches on J_OUT-3 while switch is on.	ROB button 3 momentarily turns on J_OUT-3 and Grounds J_OUT-4. Next button press toggles the operation (J_OUT-4 on, J_OUT-3 grounded). Both outputs turn off when button is released	J_IN-3 momentarily turns on J_OUT3 when activated, J_OUT3 is connected to RELAY_GND when off.	ROB Button #1 momentarily turns on J_OUT3 while the button is pushed, J_OUT3 is RELAY_GND when off.	J_IN-3 momentarily turns on J_OUT3 when activated, J_OUT3 is connected to RELAY_GND when off.	ROB Button #1 momentarily turns on J_OUT3 while the button is pushed, J_OUT3 is RELAY_GND when off.	J_OUT1,2,3,4 outputs are connected to relay GND when off. Relay GND must be connected to GND if J_OUT3 used

J_OUT-4	OUTPUT4 – MotorA out(On when IN4 on or keyfob button 1/3 activation)	J_IN-4 momentarily switches on J_OUT-4 while switch is on.	ROB button 3 momentarily turns on J_OUT-3 and Grounds J_OUT-4. Next button press toggles the operation (J_OUT-4 on, J_OUT-3 grounded). Both outputs turn off when button is released	J_IN-4 momentarily turns on J_OUT4 when activated, J_OUT4 is connected to RELAY_GND when off.	ROB Button #3 momentarily turns on J_OUT4 while the button is pushed, J_OUT4 is RELAY_GND when off.	J_IN-4 momentarily turns on J_OUT4 when activated, J_OUT4 is connected to RELAY_GND when off.	ROB Button #3 momentarily turns on J_OUT4 while the button is pushed, J_OUT4 is RELAY_GND when off.	J_OUT1,2,3,4 outputs are connected to relay GND when off. Relay GND must be connected to GND if J_OUT4 used
J_OUT-5	RELAY_GND Ground Connection for Relays (Out1,2,3,4)	Ground connection for J_OUT-1, J_OUT-2, J_OUT-3, J_OUT-4	Ground connection for J_OUT-1, J_OUT-2, J_OUT-3, J_OUT-4	Ground connection for J_OUT-1, J_OUT-2, J_OUT-3, J_OUT-4	Ground connection for J_OUT-1, J_OUT-2, J_OUT-3, J_OUT-4	Ground connection for J_OUT-1, J_OUT-2, J_OUT-3, J_OUT-4	Ground connection for J_OUT-1, J_OUT-2, J_OUT-3, J_OUT-4	J_OUT1,2,3,4 outputs are connected to relay GND when off. Relay GND must be connected to GND if J_OUT4 used. 20 A maximum if both motor outputs used
J_OUT-6	OUTPUT6 – Light out(On when IN6 on or keyfob button 2 activation) PWM output for Standard Operation	J_IN-6 turns on J_OUT-6 to full on when switch is on (12V)	ROB button 2 turns on OUT-6 when button pressed once. Double press turns off OUT-6. When button 2 is pressed and held OUT-6 varies the PWM to dim the light.	J_IN-6 turns on J_OUT-6 to full on when switch is on (12V)	ROB button 2 turns on OUT-6 when button pressed once. Double press turns off OUT-6. When button 2 is pressed and held OUT-6 varies the PWM to dim the light.	J_IN-6 turns on J_OUT-6 to full on when switch is on (12V)	ROB button 2 turns on OUT-6 when button pressed once. Double press turns off OUT-6. When button 2 is pressed and held OUT-6 varies the PWM to dim the light.	

J_OUT-7	OUTPUT7 – Radio out (On when IN7 on or keyfob button 4 activation)	J_IN-7 turns on J_OUT-7 when switch is on (12V)	ROB button 4 switches on J_OUT-7 when switch is pressed once. Turns off when button is double pressed. Turned off when ALL OFF (Button #5 is pressed)	J_IN-7 turns on J_OUT-7 when switch is on (12V)	ROB button 4 switches on J_OUT-7 when switch is pressed once. Turns off when button is double pressed. Turned off when ALL OFF (Button #5 is pressed)	J_OUT-7 turns on when J_IN-1 or J_IN-2 are on. This is used to drive a hydraulic pump in hydraulic mode	J_OUT-7 turns on when button #4 or Button #6 are pressed and held. This is used to drive a hydraulic pump in hydraulic mode	
J_OUT-8	OUTPUT8 – Blower out (On when IN8 on or keyfob button 1 activation)	J_IN8 turns on J_OUT-8 when switch is on (12V)	ROB button 1 switches on J_OUT-8 when switch is pressed once. Turns off when button is double pressed. Turned off when ALL OFF (Button #5 is pressed)	J_OUT-8 turns on when J_IN-3 or J_IN-4 are on. This is used to drive a hydraulic pump in hydraulic mode	J_OUT-8 turns on when button #1 or Button #3 are pressed and held. This is used to drive a hydraulic pump in hydraulic mode	J_OUT-8 turns on when J_IN-3 or J_IN-4 are on. This is used to drive a hydraulic pump in hydraulic mode	J_OUT-8 turns on when button #1 or Button #3 are pressed and held. This is used to drive a hydraulic pump in hydraulic mode	
J_MISC-2	Ignition input for the IPM	TBD	TBD	TBD	TBD	TBD	TBD	
J_MISC-3	HORN_OUT Used to drive a horn relay for emergency alarm	None	ROB button #7 activates J_MISC-3 as output. Turns on/off in SOS pattern	None	ROB button #7 activates J_MISC-3 as output. Turns on/off in SOS pattern	None	ROB button #7 activates J_MISC-3 as output. Turns on/off in SOS pattern	5A max current for SOS pattern
J_MISC-4	MASTLIGHT_ OUT	No Operation	Flashes once on when any on button commanded. Flashes twice when any off command pressed	No Operation	Flashes once on when any on button commanded. Flashes twice when any off command pressed	No Operation	Flashes once on when any on button commanded. Flashes twice when any off command pressed	2A max current
J_MISC-5	Spare_OUT	Pulls down to IPM GND when any output is on,	Pulls down to IPM GND when any output is on,	Pulls down to IPM GND when any output is on,	Pulls down to IPM GND when any output is on,	Pulls down to IPM GND when any output is on,	Pulls down to IPM GND when any output is on,	200mA maximum current
J_MISC-6	FAULT_OUT	Pulls down in the unlikely event of a fault in the module	Pulls down in the unlikely event of a fault in the module	Pulls down in the unlikely event of a fault in the module	Pulls down in the unlikely event of a fault in the module	Pulls down in the unlikely event of a fault in the module	Pulls down in the unlikely event of a fault in the module	100mA max current

Step 4 - Decide where to mount the IPM

The wiring from the control switches and the loads must go to the IPM module. The best place to mount the IPM is where the switch that controls the load is located. This provides access to the power, switch input, and load connections

The IPM should be mounted securely so that it cannot vibrate loose during vehicle operation.

The antenna should be mounted pointed away from any metal.

If the IPM is mounted into an enclosed metal area, the range performance of the remote may be poor. An optional extension cable for the antenna is available to allow remote location of the RF antenna outside the metal cage.

The IPM is best mounted so that the side without a connector is facing up. This allows any water collected in the housing to run out and limits the water ingress into the housing.

To program the ROBs to the IPM, the small red button near the antenna must be accessible.

Step 5 - Connect the IPM harnesses

The IPM is designed to use a "pass through" connector configuration. This means that the connections to the J_IN connector line up with the connections to the J_OUT connector. The harnesses should be wired up to the vehicle before the IPM is installed. This way the connections can be checked by plugging the J_IN harness into the J_OUT harness. Do not connect the IPM to the harnesses until the wiring has be validated with the bypass connection.

After the functions to control have been matched up to the corresponding output / inputs on the IPM we simply have to connect the wires. A sample wiring diagram is included as appendix A to this manual.

Wiring harnesses are provided to connect the WOW IPM to the vehicle. We recommend that the wire gauge of the load be matched to the current drawn by the load. It is the responsibility of the installer to select the correct wire gauge. The IPM harnesses are sized correctly to handle the maximum specified current for each input / output

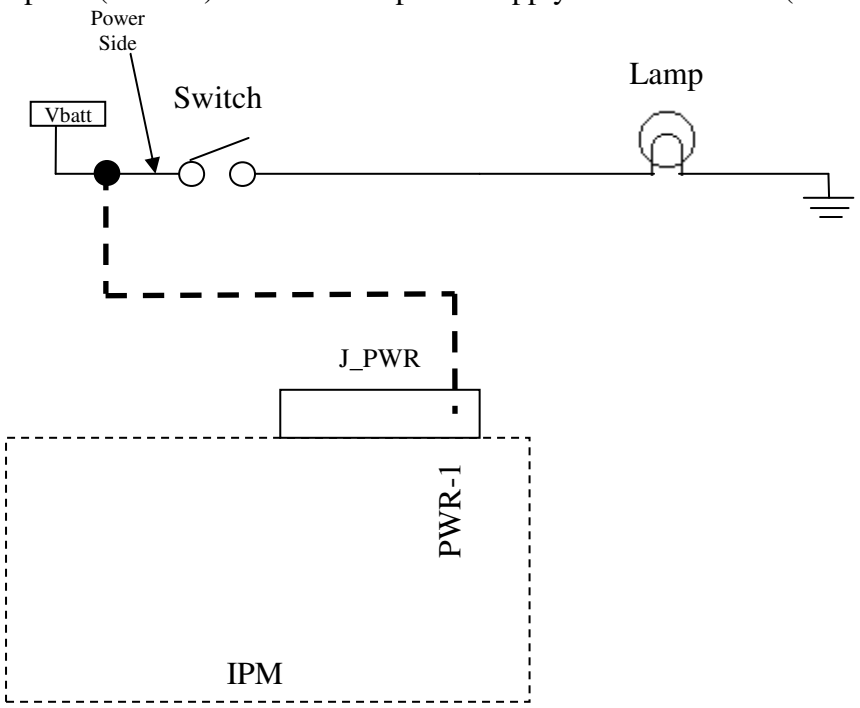
The steps to connect a load to an existing switch are:

1) Connect the matching power input to the power side of the switch
2) Disconnect the load side of the switch and connect the load to the matching IPM output
3) Connect the Matching IPM input to the load side of the switch

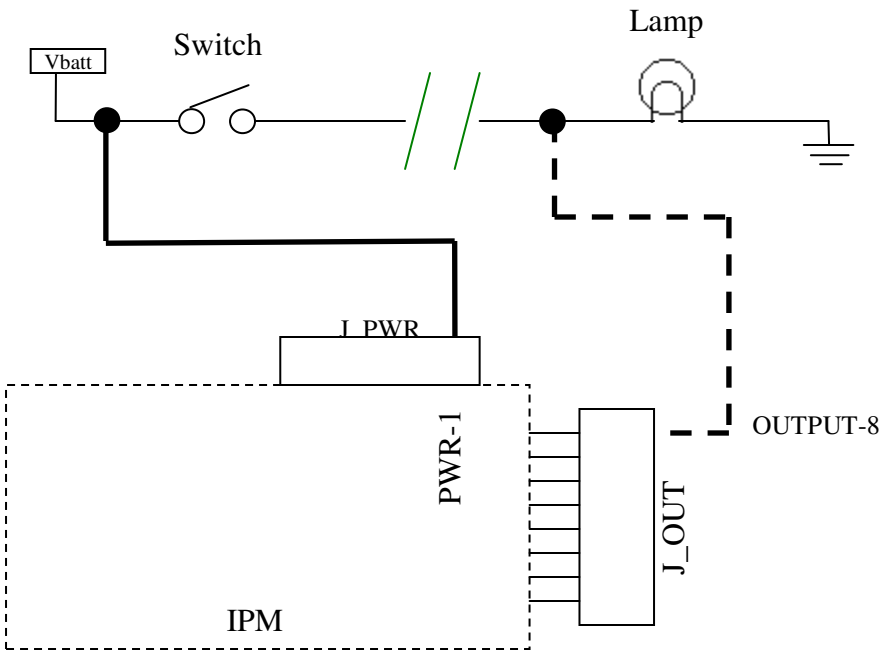
Example - 1:

To connect a lamp load of 10Amps to output-8 (Blower)

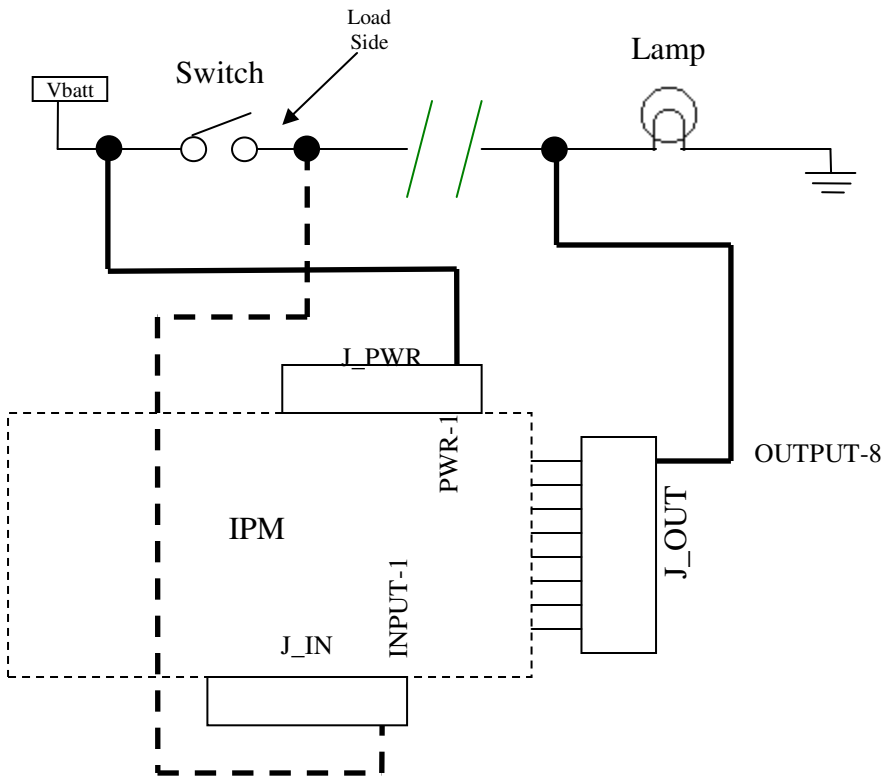
1A) Connect the correct power harness to the power side of the switch. Table 1 shows that J_Power pin 1 (PWR-1) is the correct power supply for OUTPUT-8 (blower).



2A) Disconnect the load from the load side of the switch and connect the load to the IPM output harness. Table 1 shows that OUTPUT-8 is rated for 15 amps so 10 amp lamp load is acceptable.



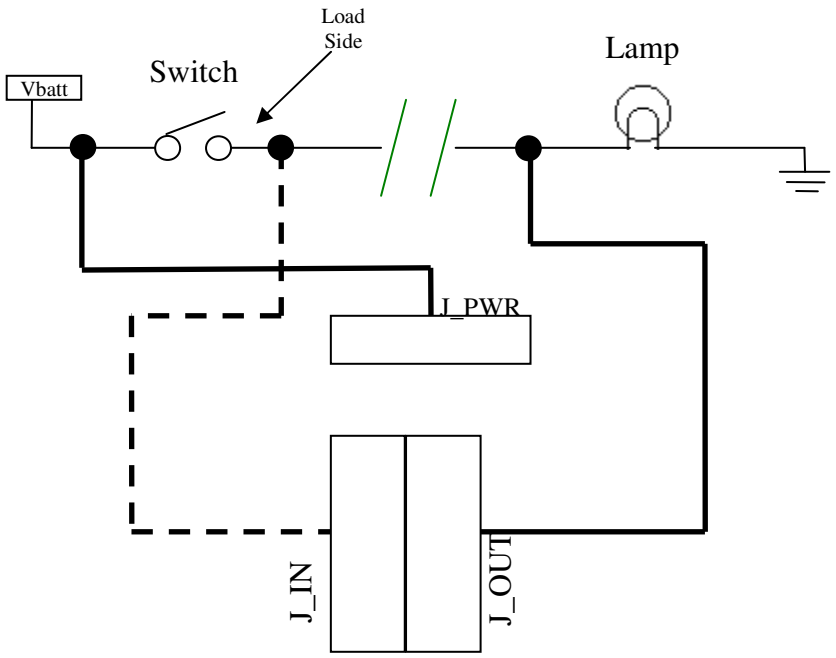
3A) Connect the load side of the switch to the corresponding IPM input harness. Table 1 shows that INPUT-8 is used for OUTPUT-8.



Step 6 - Test the vehicle wiring connections using the bypass feature

The IPM is designed to use a “pass through” connector configuration. This means that the connections to the J_IN connector line up with the connections to the J_OUT connector. The harnesses should be wired up to the vehicle before the IPM is installed. This way the connections can be checked by plugging the J_IN harness into the J_OUT harness. Do not connect the IPM to the harnesses until the wiring has been validated with the bypass connection.

`



Step 7 - Connect the IPM to the harnesses

The IPM module should be mounted securely to the vehicle.

The harnesses lock in place when plugged into the IPM. The harnesses must be slid into place until the locks are engaged.

The antenna should be mounted to the housing such that the antenna is perpendicular to the housing. The antenna should be tightened with a wrench so the antenna nut will not loosen and the antenna orientation maintained.

Step 8 - Program the ROB(s) to the IPM

Near the antenna and under the input connectors is a small red button. Press the button for 1 second to put the IPM into programming mode. The IPM must be powered up and the antenna should be connected.

When the IPM enters programmed mode the LED flashes and the IPM beeper will beep.

Press any button on the ROB within 3 ft of the IPM and hold for 5 seconds. The LED will flash again and the IPM beeper will beep.

Repeat this procedure for each of the ROBs to be programmed to the IPM.

Step 9 - Test complete operation of the system

At this point the IPM should be fully installed and operational.

Check all ROB functions for correct operation. A single short ROB button press turns on a button function. Two short button press operations turns off a button function. If a dimming feature is used, holding the button will cause the lamp/LED to dim until the button is released.

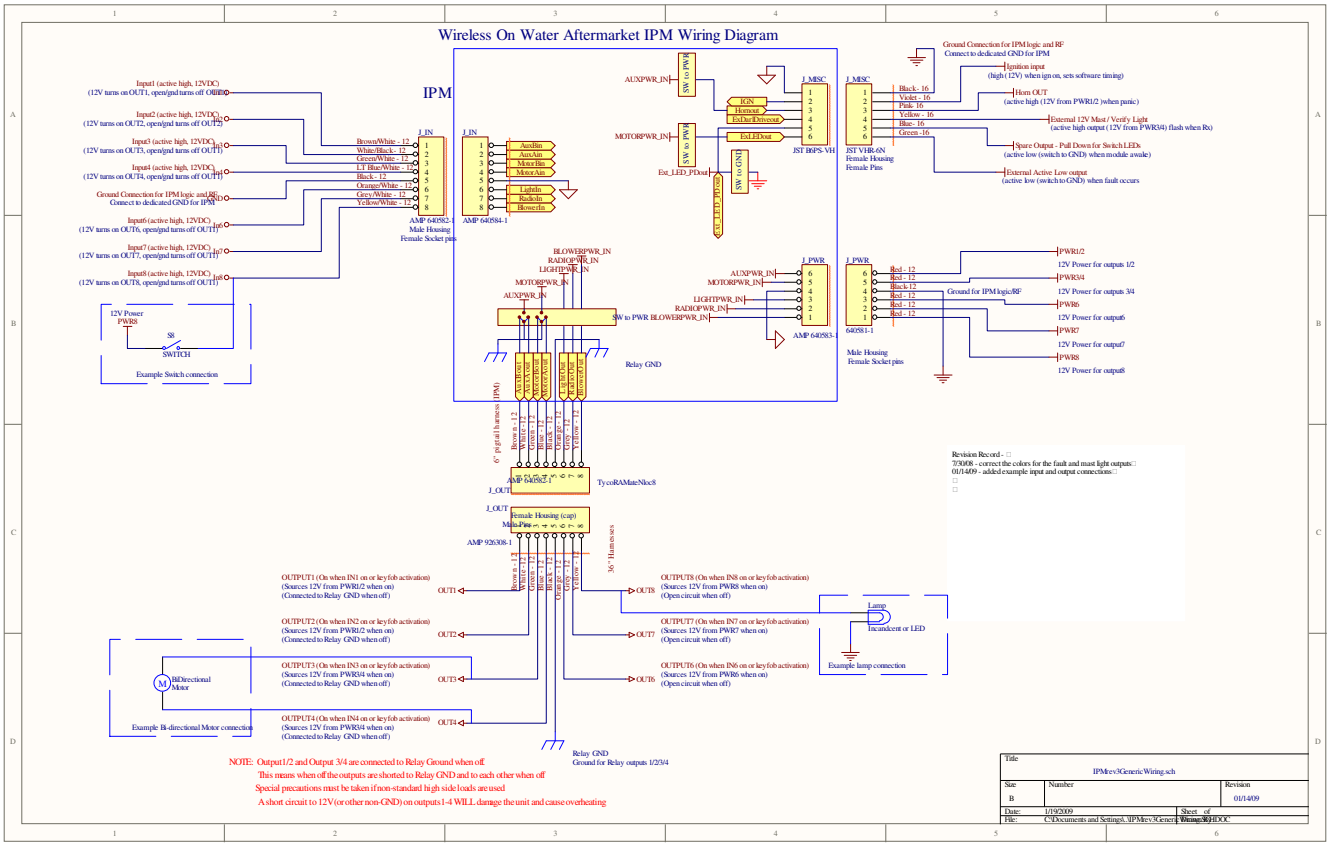
The ROB functions are detailed in Table 2 above.

Check all vehicle switch functions for correct operation. Switches should operate normally.

Buttons on the ROB and switches in the vehicle should both turn on and off the loads.

If the IPM beeps when a load is turned on and the fault LED is illuminated, an over current situation may be present. Disconnect the IPM and check the load current to assure compliance with the load currents shown in Table 1.

Wireless On Water Aftermarket IPM Wiring Diagram



WOW LIMITED WARRANTY

Wireless on Water, LLC

The limited warranty set forth below is given by MTD LLC with respect to new merchandise purchased and used in the United States, its possessions and territories. "WOW" warrants this product against defects in material and workmanship for a period of one (1) years commencing on the date of original purchase and will, at its option, repair or replace, free of charge, any part found to be defective in materials or workmanship. This limited warranty shall only apply if this product has been operated and maintained in accordance with the Operator's Manual furnished with the product, and has not been subject to misuse, abuse, commercial use, neglect, accident, improper maintenance, alteration, vandalism, theft, fire, water, or damage because of other peril or natural disaster. Damage resulting from the installation or use of any part, accessory or attachment not approved by WOW for use with the product(s) covered by this manual will void your warranty as to any resulting damage.

Normal wear parts or components thereof are subject to separate terms as follows: All normal wear parts or component failures will be covered on the product for a period of 90 days regardless of cause. After 90 days, but within the one year period, normal wear part failures will be covered ONLY IF caused by defects in materials or workmanship of OTHER component parts. Normal wear parts and components include, but are not limited to: batteries, decorative finishes on FOBs, and some labeling.

HOW TO OBTAIN SERVICE: Warranty service is available, WITH PROOF OF PURCHASE, through your local authorized installer or service dealer. Contact WOW at P.O. Box 1090 Doris Road, Auburn Hills, Michigan 48326, or call 800-359-9855 or log on to our Web site at www.wowteam.us

This limited warranty does not provide coverage in the following cases:

1) For products sold or exported outside of the United States, its possessions and territories, except those sold through WOW's authorized channels of export distribution.

2) Replacement parts that are not genuine WOW parts. Service completed by someone other than an authorized service installer / dealer.

3) Transportation charges and service calls.

No implied warranty, including any implied warranty of merchantability of fitness for a particular purpose, applies after the applicable period of express written warranty above as to the parts as identified. No other express warranty, whether written or oral, except as mentioned above, given by any person or entity, including a dealer or retailer, with respect to any product, shall bind WOW. During the period of the warranty, the exclusive remedy is repair or replacement of the product as set forth above. The provisions as set forth in this warranty provide the sole and exclusive remedy arising from the sale. WOW shall not be liable for incidental or consequential loss or damage including, without limitation, expenses incurred for product failure or replacement or for rental expenses to temporarily replace a warranted product. Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions or limitations may not apply to you. In no event shall recovery of any kind be greater than the amount of the purchase price of the product sold. Alteration of safety features of the product shall void this warranty. You assume the risk and liability for loss, damage, or injury to you and your property and/or to others and their property arising out of the misuse or inability to use the product. This limited warranty shall not extend to anyone other than the original purchaser or to the person for whom it was purchased as a gift.

HOW STATE LAW RELATES TO THIS WARRANTY: This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

IMPORTANT: Owner must present Original Proof of Purchase to obtain warranty coverage. Wireless on Water, LLC, P.O. BOX 1090 Doris Road, Auburn Hills, Michigan 48326. Phone: 800-359-9855