

FEATURES

- 85V-305V 20A
- ZigBee Pro
- 128 bit AES Security
- 13dBm RF Power
- RoHS Compliant
- Hard-Wired
- Plenum Rated



DESCRIPTION

The IM-301 Power-Pack monitors and controls energy usage for lighting or other electrical systems. It works with IntelliSockets™ to form a secure wireless mesh network for control and reporting of data. Each network is anchored by an IntelliGateway™ base station providing connectivity to the IntelliNetwork™, a cloud-based data collection and analysis application. The IM-301 provides a low voltage 24Vdc supply for motion detectors and ambient light sensors, which can then control the operating state of the meter in either occupancy or vacancy mode (meeting Title24 requirements). A wide input voltage range accommodates 120V, 240V, and 277V lighting systems.

PERFORMANCE

Parameter	Symbol	Min	Typ	Max	Units
Input Voltage (RMS)	V_{IN}	85		305	V
Input Frequency		47	60	63	Hz
Output Current (RMS)	I_{OUT}			20	A
Power Consumption			1.5		W
Reporting Interval		1	15	255	s
Accuracy (Energy)				0.5	%
Accuracy (Voltage)				1	%
Accuracy (Interval)				1	ms
Resolution			1		W-s
RF Range			50		m
RF Transmit Power		-4		12	dBm
ZigBee Channels		11		26	
Size		3.5 x 3.5 x 1.5			inches

COMPLIANCE

Agency	File
UL916 – Energy Management Equipment	E470522
ZigBee Profile (Plover)	0x114B
FCC	2AECN300

ENVIRONMENTAL

Parameter	Symbol	Min	Typ	Max	Units
Operating Temperature	T _O	0	25	40	C
Storage Temperature	T _S	-40		100	C
Relative Humidity	RH	0		95	%

PUSHBUTTON / LED

Action	Result
Press (no hold)	Toggle outlet state (on/off).
Pressed while plugging in	Ignored.
Press and hold 3+ seconds	Soft reset. Re-start socket. Similar to plugging in.
Press and hold 8+ seconds	Hard reset. All conditions are set to default. Normally this sets socket back to FACTORY channel and hive. However, if socket has been deployed on CUSTOMER channel and hive, a hard reset will then toggle between FACTORY and CUSTOMER settings. This is a useful feature to correct a socket that has been accidentally reset to FACTORY. It also provides a quick method to perform a manual self-heal. If on FACTORY, LED will be red, CUSTOMER green.

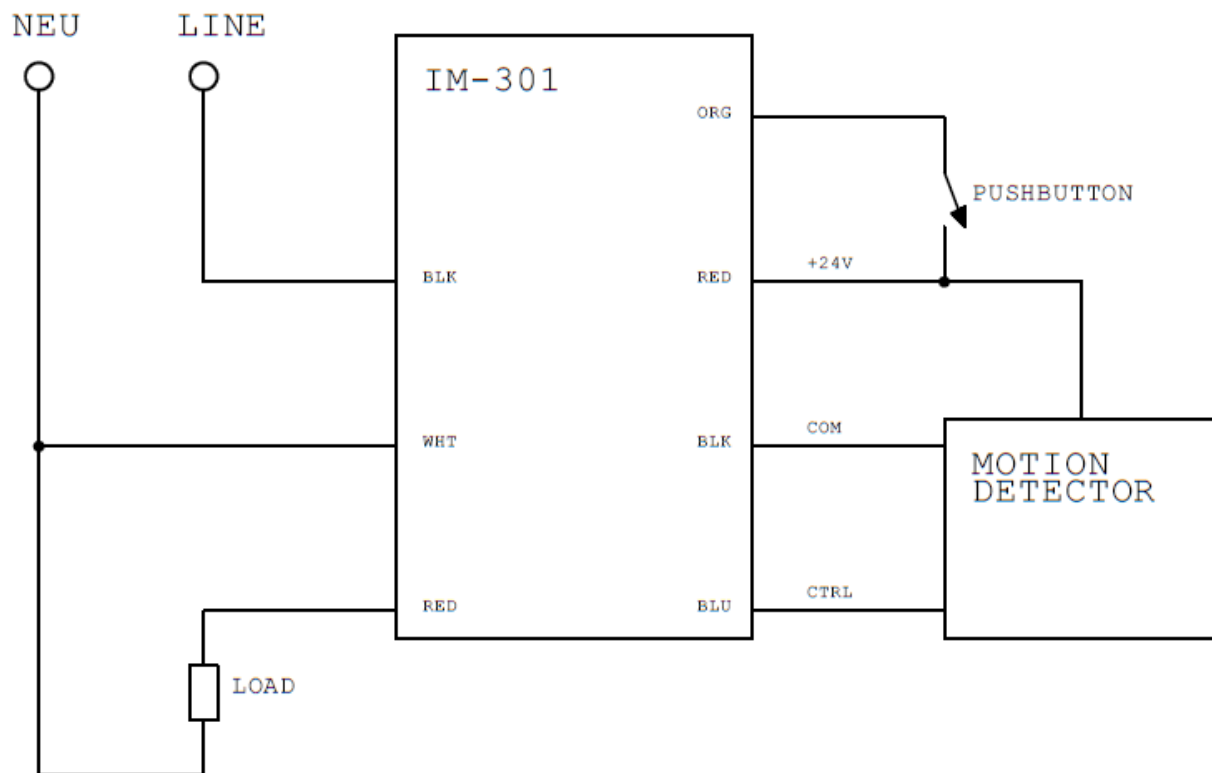
Color	Meaning
Black	Socket has no power.
Yellow	Boot-up sequence in effect. Typically ½ second duration.
Flashing Red or Green	Socket is attempting to join mesh network.
Red	Outlet is off.
Green	Outlet is on.

USAGE

The IM-301 is a direct replacement for your existing power-packs, offering a quick low-cost upgrade for your lighting system. You can now monitor exact power consumption for each bank of lighting. Each InteliMeter is another wireless node on your Ibis mesh along with InteliSockets. Set lighting schedules, or use the motion detector input to trigger control of other sockets. The IM-301 is not limited to lighting and can be used for other purposes, such as control of existing outlets or hard-wired devices. A wide input voltage range and 20 amp capability opens up a world of possibilities.

WIRING

The IM-301 is designed to install as part of your electrical wiring infrastructure. The enclosure mounts to a standard electrical box using a feed-thru grommet, keeping “hot” wires internal. Class 2 secondary low voltage control wires are for connecting standard motion detectors or ambient light sensors. The external pushbutton and motion detector are both optional.



FCC

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

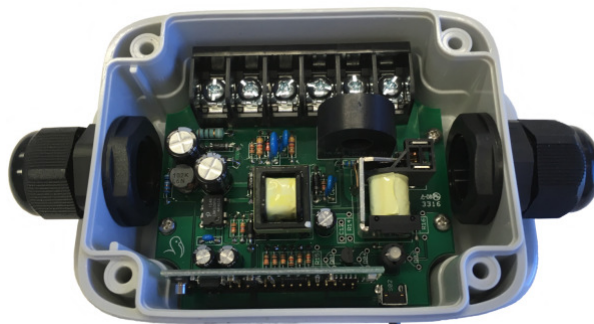
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The user is cautioned that changes and modifications made to the equipment without the approval of manufacturer could void the user's authority to operate this equipment.

To satisfy RF exposure requirements, this device and its antenna must operate with a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

FEATURES

- 85V-265V 30A
- ZigBee Pro
- 128 bit AES Security
- 13dBm RF Power
- Surge Protected
- Hard-Wired



DESCRIPTION

The IM-303 IntelliMeter measures and controls energy consumption. It works with other IntelliSockets™ and IntelliMeters™ to form a secure wireless mesh network for control and reporting of data. Each network has an IntelliGateway™ base station providing connectivity to the IntelliNetwork™, a cloud-based data collection and analysis application. IntelliMeters can be configured to operate on any of the 16 ZigBee channels, with channel 26 set as factory default. In addition, the hive (PANID) has over 4000 possible settings, preventing nearby systems from interfering with each other. The IM-303 was designed with residential hot water heaters in mind.

PERFORMANCE

Parameter	Symbol	Min	Typ	Max	Units
Input Voltage (RMS)	V_{IN}	85		265	V
Input Frequency		47	60	63	Hz
Output Current (RMS)	I_{OUT}			30	A
Power Consumption			1		W
Reporting Interval		1	15	255	s
Accuracy (Energy)				0.5	%
Accuracy (Voltage)				1	%
Accuracy (Interval)				1	ms
Resolution			1		W-s
RF Range			50		m
RF Transmit Power		-4		12	dBm
Sockets per Network				120	
ZigBee Channels		11		26	
ZigBee Hive		0x3000		0x3FFF	
Size		4.5 x 3.5 x 2			inches

COMPLIANCE

Agency	File
UL916 – Energy Management Equipment	E470522
ZigBee Profile (Plover)	0x114B
FCC	2AECN300

ENVIRONMENTAL

Parameter	Symbol	Min	Typ	Max	Units
Operating Temperature	T _O	0	25	40	C
Storage Temperature	T _S	-40		100	C
Relative Humidity	RH	0		95	%

PUSHBUTTON / LED

Action	Result
Press (no hold)	Toggle outlet state (on/off).
Pressed while plugging in	Ignored.
Press and hold 3+ seconds	Soft reset. Re-start socket. Similar to plugging in.
Press and hold 8+ seconds	Hard reset. All conditions are set to default. Normally this sets socket back to FACTORY channel and hive. However, if socket has been deployed on CUSTOMER channel and hive, a hard reset will then toggle between FACTORY and CUSTOMER settings. This is a useful feature to correct a socket that has been accidentally reset to FACTORY. It also provides a quick method to perform a manual self-heal. If on FACTORY, LED will be red, CUSTOMER green.

Color	Meaning
Black	Socket has no power.
Yellow	Boot-up sequence in effect. Typically ½ second duration.
Flashing Red or Green	Socket is attempting to join mesh network.
Red	Outlet is off.
Green	Outlet is on.

WIRING

The IM-303 is designed to be hard-wired between the power feed and a standard 240V 30A hot water heater. #10 wires connect to screw terminals, designated at RED (neutral), BLACK (hot) and bare or GREEN (earth).

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- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The user is cautioned that changes and modifications made to the equipment without the approval of manufacturer could void the user's authority to operate this equipment.

To satisfy RF exposure requirements, this device and its antenna must operate with a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.