IS-302

Dual InteliSocket™

FEATURES

- 120V 15A
- ZigBee Pro
- 13 dBm RF Power
- Surge Protected
- RoHS Compliant
- Title 24 Part 6 Compliant

DESCRIPTION

The IS-302 is a dual smart socket which meters plug load energy usage and provides device on/off capability. It works with other InteliSockets™ to form a secure wireless mesh network for control and reporting of data. Each network is anchored by an InteliGateway™ base station providing connectivity to the InteliNetwork™, a cloud-based data collection and analysis application.

PERFORMANCE

Parameter	Symbol	Min	Typ	Max	Units
Input Voltage (RMS)	V_{IN}	108	120	132	V
Input Frequency			60		Hz
Output Current (RMS)	I_{OUT}			15	A
Output Power	P_{OUT}			1800	W
Power Consumption			1		W
Reporting Interval		1	15	255	s
Accuracy (Energy)				0.5	%
Accuracy (Voltage)				1	%
Accuracy (Interval)				1	ms
RF Range			50		m
Resolution		1			W-s
RF Transmit Power			13		dBm
Sockets per Network				120	
ZigBee Channels		11		26*	
ZigBee Hive		0x3000		0x3FFF	
Size		4.5 x 2.75 x 1.4			inches

* Channel 26 limited to 3dBm

COMPLIANCE

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

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	%

InteliSockets are for indoor use only.

PROTOCOL

InteliSockets use Ibis' custom Plover profile for commands, acknowledgements, and reporting of data.

DATA

InteliSockets report data typically every 15 seconds. Each report packet is comprised of socket type, ZigBee channel, ZigBee hive (PANID), interval (seconds), voltage (RMS), frequency (Hz), energy (watt-seconds), and power factor (fraction). From these data we can calculate instantaneous power (watts) and current (amps).

$$Power = \frac{Energy}{Interval}$$

$$Current = \frac{Power}{(Voltage) \cdot (Factor)}$$

The InteliGateway appends additional information (IP, timestamp, location, etc.) before uploading to the InteliNetwork. This allows any socket in the world to be located and addressed individually.

PUSHBUTTON

The illuminated pushbutton provides addition control features. First and foremost, it is a manual override for turning the outlet on (green) and off (red). If pressed and held for at least three seconds it causes a reboot of the socket. If held in for ten seconds (two reboots) it reverts back into factory mode settings. This is a useful feature for maintenance purposes or when a socket gets moved from one location to another. A blinking backlight indicates the socket has not associated with a mesh network yet.

DUAL OUTLETS

The outlets on the IS-302 are metered separately, although only one of them can be turned off. The "always on" outlet is meant to be used for monitoring a device such as a computer or lamp, which provides an indication of a user's presence, and can be used as an event trigger. For example, when the computer goes into sleep mode, it flags the InteliNetwork software to shut down the "controlled" outlet. Such behavioral control can potentially lead to greater savings than fixed time schedules. In typical use, a power strip is plugged into the "controlled" outlet, providing combined control and monitoring of a number of devices. Thus, the IS-302 offers a unique, low cost solution for the "desktop" or "cubicle". Tracking is organized by person, not device.

TITLE 24

The IS-302 is Title24 compliant.

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.