Instruction Manual
for
Websensor
Model ES06

High Level - Input/Output Interface

Esensors Inc
Amherst NY

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PRINTING HISTORY

February 2006 First Edition

WARRANTY

Warranty

Esensors warranties the products to be substantially free of manufacturing defects for a period of 2 years after purchase during which time the product will be replaced without charge if defective.

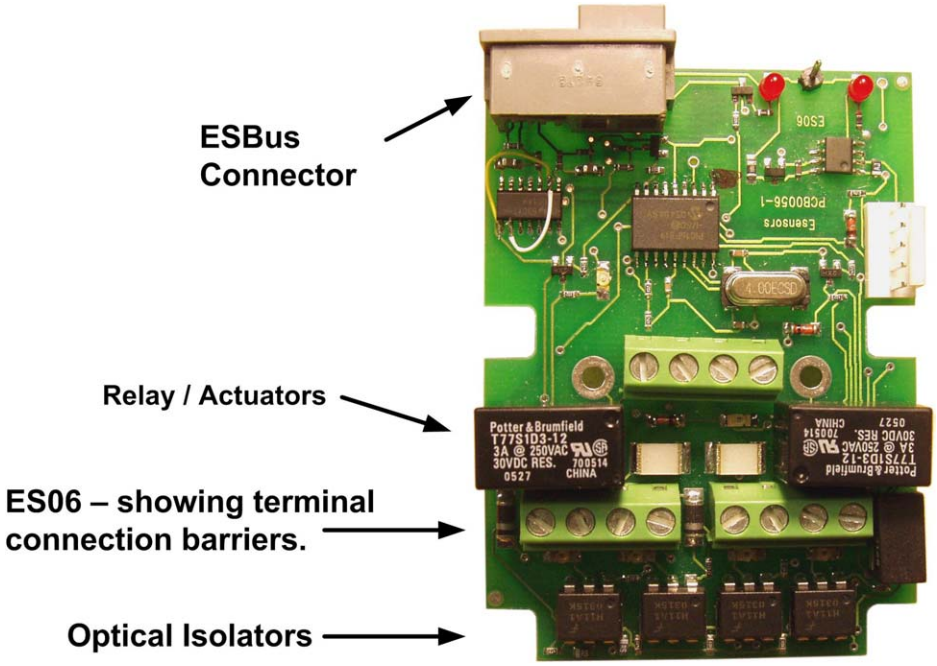
Limitations

Esensors provides no warranty, expressed or implied, as to the fitness of the products for any particular purpose. Esensors will not be liable for incidental or consequential damages arising from the use of its products.

CONTENTS

Introduction to the ES06

The ES06 is a Websensor option which provides the User with a means to detecting contact closure, sense the presence of 120 volts AC and extend control via relay dry contact closure

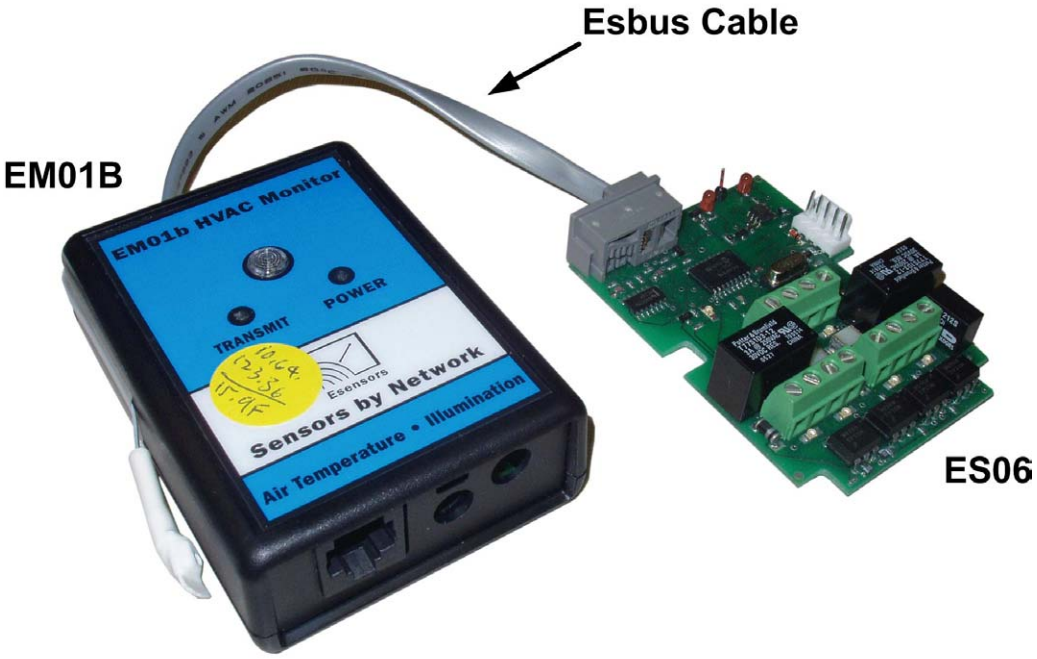


ES06 shown with case removed.

The ES06 expands the capabilities of the EM01B Websensor and is connected via the ES bus expansion port located on the EM01B Websensor.

High voltage	The USER is EXPOSED to Potentially Hazardous Voltages that can exist in this electronic equipment. Installation and maintenance should be performed by individuals trained in working with devices of this type.

How the ES06 Connects to the EM01B Websensor



Websensor EM01B shown connected to ES06

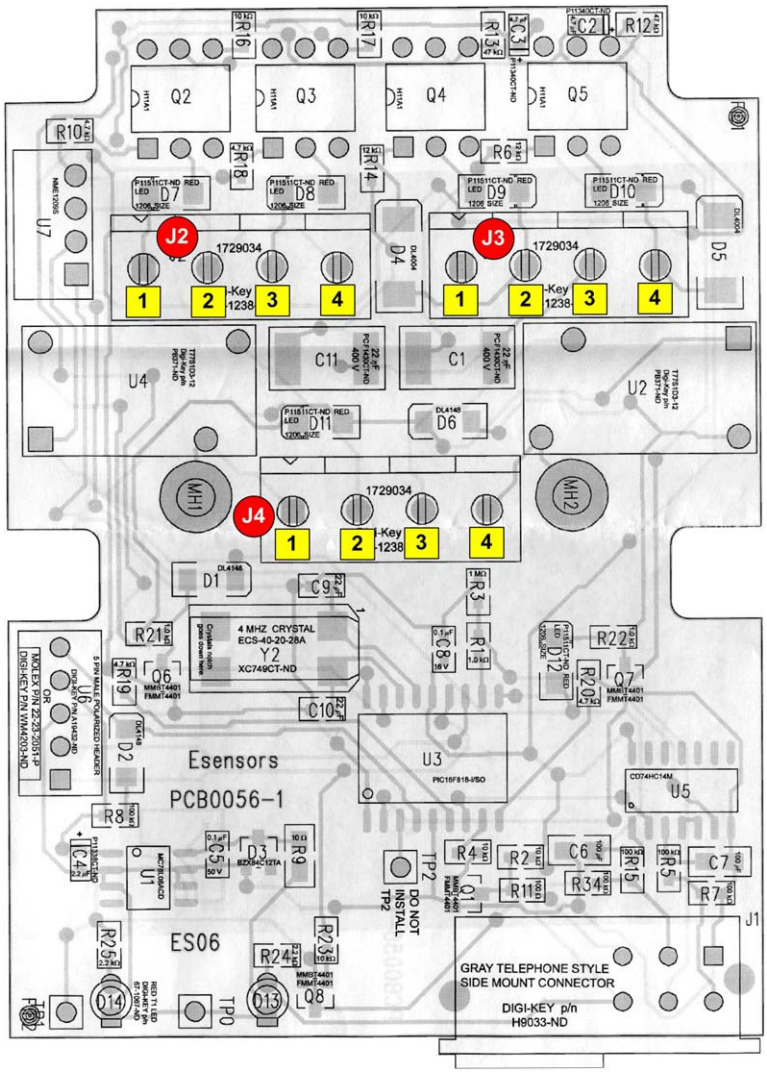
The ES06 requires an EM01B and connects via the Esbus expansion port using an Esbus cable which is shipped with every ES06.

To operate correctly the ES06 requires that the EM01B Websensor have the proper firmware installed. Contact Esensors, Inc. to confirm correct firmware versioning. Please have the EM01B serial number available when calling for support.

Connecting to the ES06 Websensor

Connections are made to the ES06 via the terminal strips J2, J3 and J4 and shown in the figure below.

Please pay particular attention to the orientation of the ES06 board when making connections as the board has been depicted in several different orientations in this manual.



ES06 Board Layout and J2, J3 & J4 locations

Connecting to the ES06 Websensor

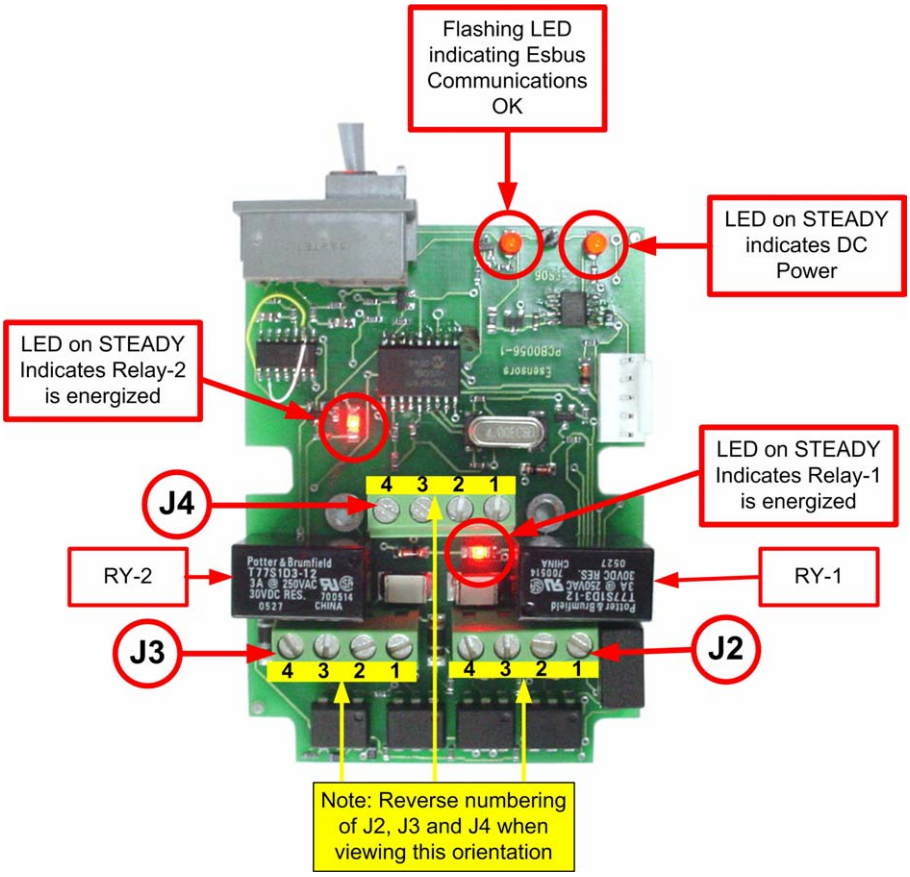
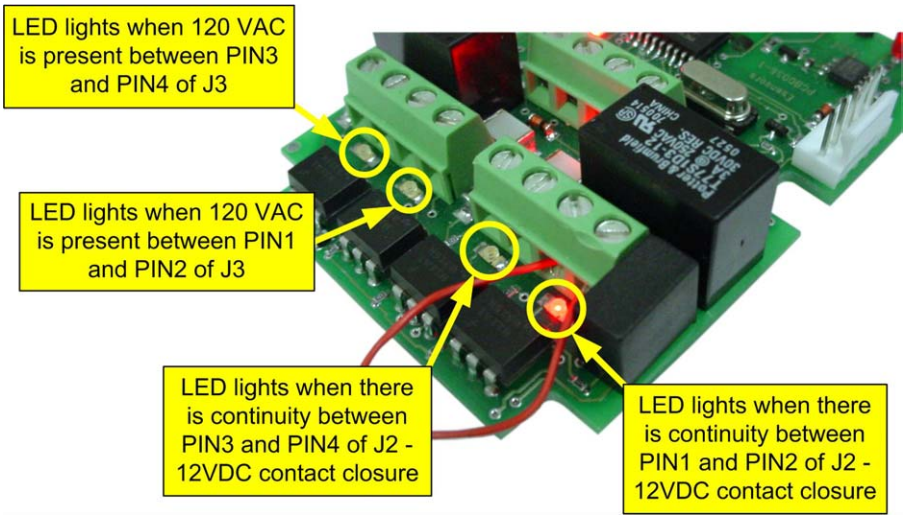


Figure ** - ES-06 Component Identification.

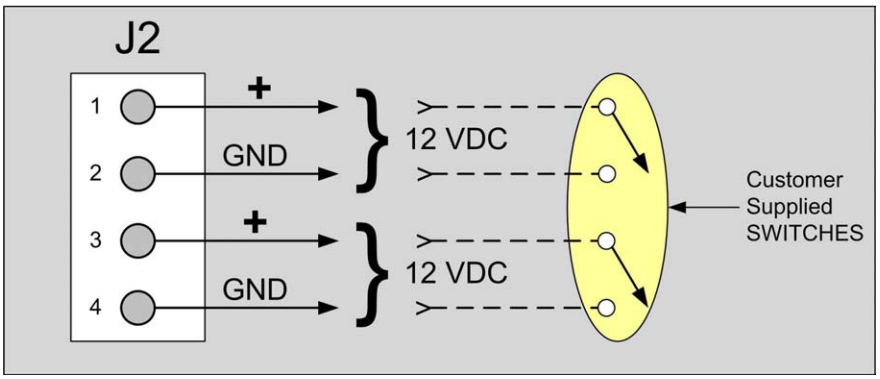
Connecting to the ES06 Websensor



ES-06 – location of LED Indicators

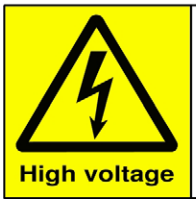
The ES06 *Indicator LEDs* to show either the presence of contact closure (continuity) between PIN1 and PIN2 or PIN3 and PIN4 of J2. Also, *Indicator LEDs* show the presence of 120 VAC between PIN1 and PIN2 or PIN3 and PIN4 of J3.

J2 is used for sensing contact closure. The ES06 provides the 12VDC needed by the board electronics which senses closure.



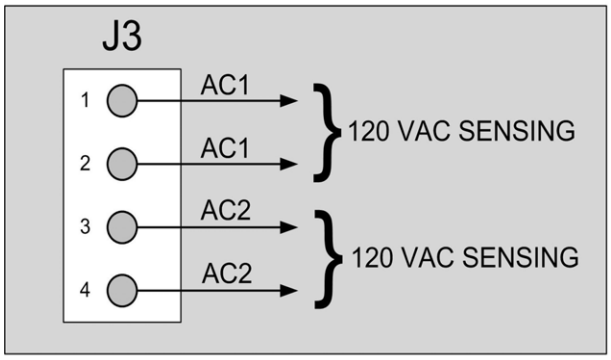
Connections to J2 Terminal Strip.

Connecting to the ES06 Websensor



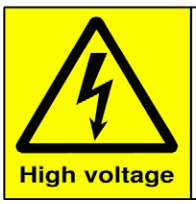
The USER is EXPOSED to Potentially Hazardous Voltages that can exist in this electronic equipment. Installation and maintenance should be performed by individuals trained in working with devices of this type.

J3 is used for sensing the presence of 120Volts AC. Working with 120VAC is HAZARDOUS. Installation of the ES06 should be performed by technically qualified personnel.



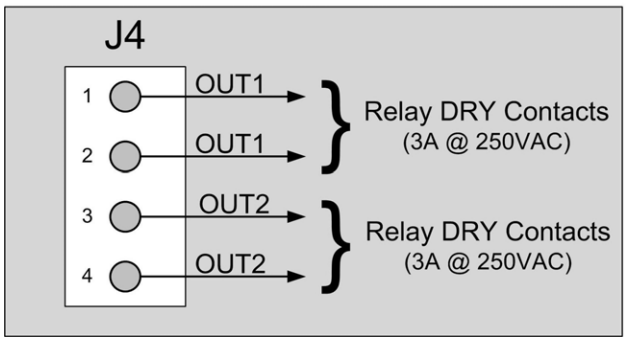
Connections to J3 Terminal Strip.

Connecting to the ES06 Websensor



The USER is EXPOSED to Potentially Hazardous Voltages that can exist in this electronic equipment. Installation and maintenance should be performed by individuals trained in working with devices of this type.

J4 provides access to the relay dry contacts available on the ES06. The relay is SPST – contact closure is only available when either of the two relays is energized.

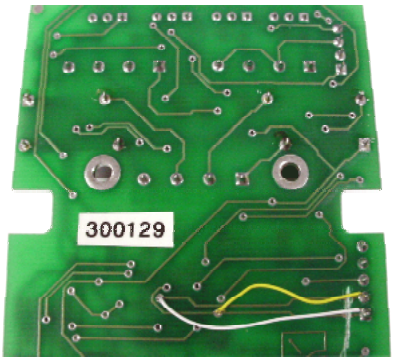


Connections to J4 Terminal Strip.

The relays may be used as an actuator which provides excitation voltage for a larger contactor. As depicted the relay contacts are rated for 3 amperes at 250 volts AC.

Communicating with the ES06 Websensor

All communications with the ES06 is performed using http: commands issued to the EM01B Websensor. Before any specific commands can be issued to the ES06, it is important to note the *Device ID* located both on the back of the ES06 printed circuit board and on the ES06 case. Reference the figure below.



Location of DeviceID

ES06 Command Structure and Responses

The structure (syntax) of the commands used with the ES06 is as follows:

http://192.168.254.102/index.html?em*DevcIDCC*

http://192.168.254.102/index.html?em300129NF – would *energize* RELAY1 and *de-energize* RELAY2

http://192.168.254.102/index.html?em300129NN – would *energize* both RELAY1 and RELAY2

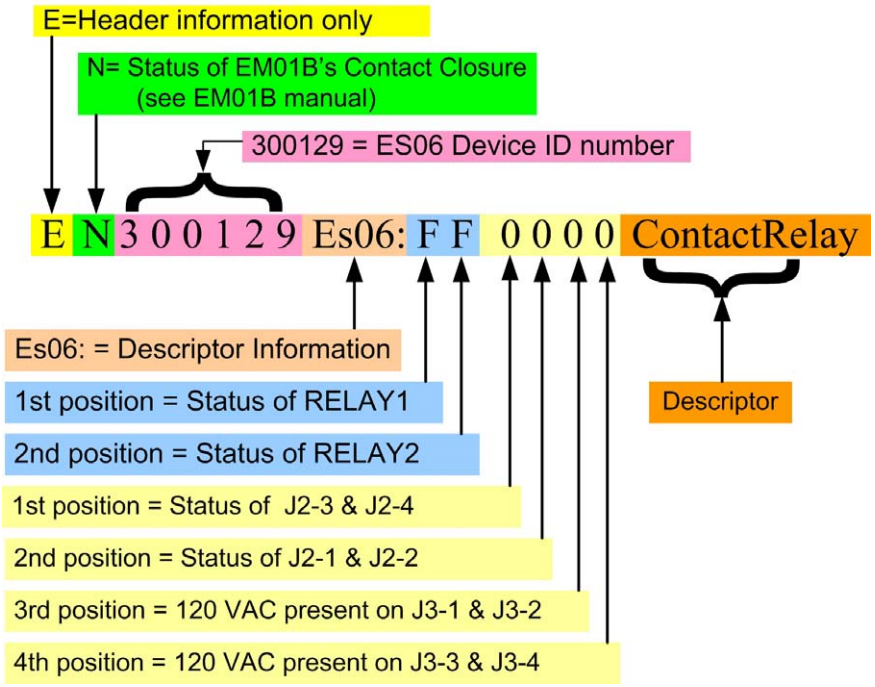
http://192.168.254.102/index.html?em300129FF – would
de-energize both RELAY1 and RELAY2

Understanding the ES06 Response

Shown below are examples of several possible responses to an ES06 which has been polled.

Command sent:
http://192.168.254.102/index.html?em300129

ES06 response:
EN300129Es06:FF0000ContactRelay



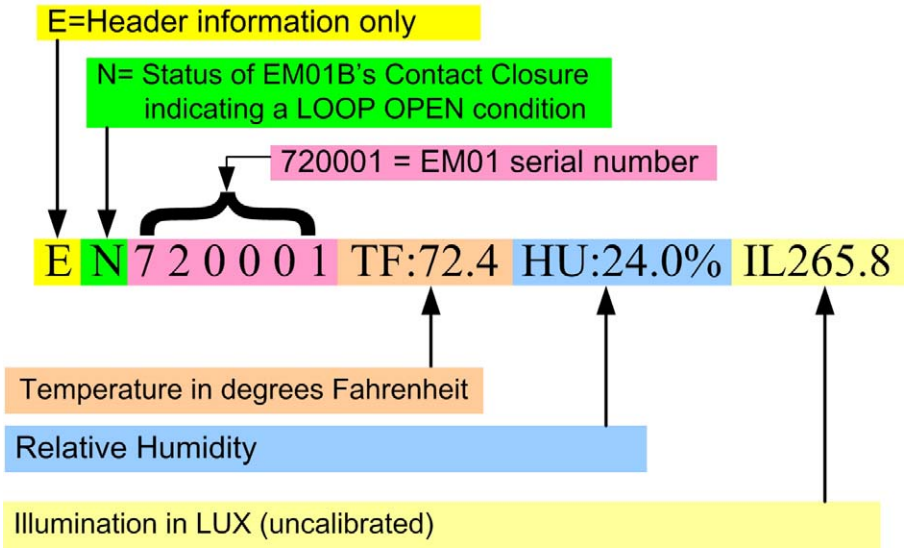
Field definitions of ES06 response.

ES06 Command Structure and Responses

When the ES06/EM01B is issued a request without the device number being specified, the Websensor returns the usual temperature, relative humidity and illumination information.

Command sent: http://192.168.254.102/index.html?em

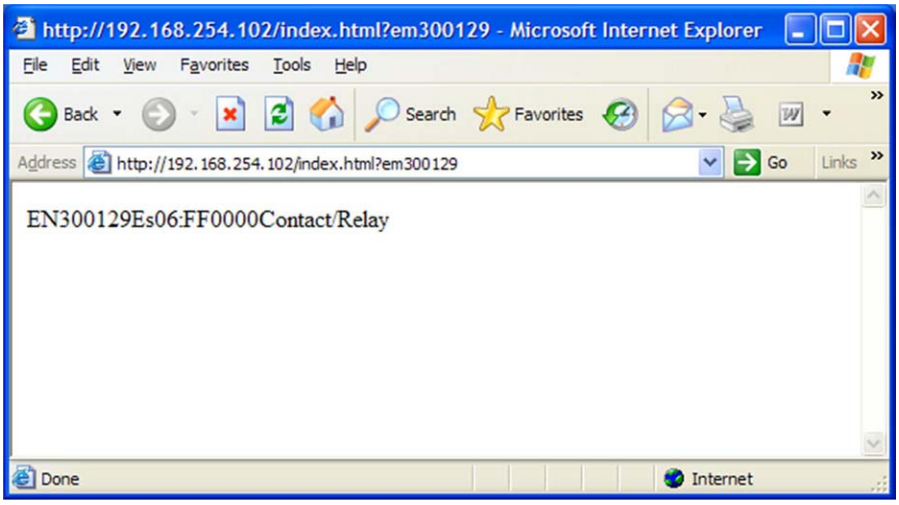
ES06/EM01B response:
EN720001TF:72.4HU:24.0%IL265.8



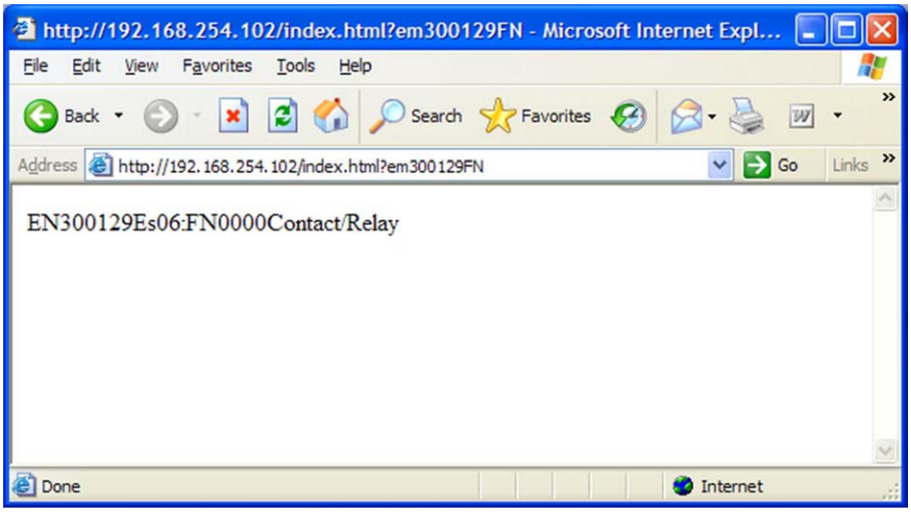
Field definitions of ES06 response.

Note: For purposes of explanation and example, 192.168.254.102 is the default Websensor address and 300129 is the Device ID of the ES06. The Websensor IP address is configurable as the application requires. Reference the Websensor EM01B User's Manual for more information. The Device ID of the ES06 is labeled on the device.

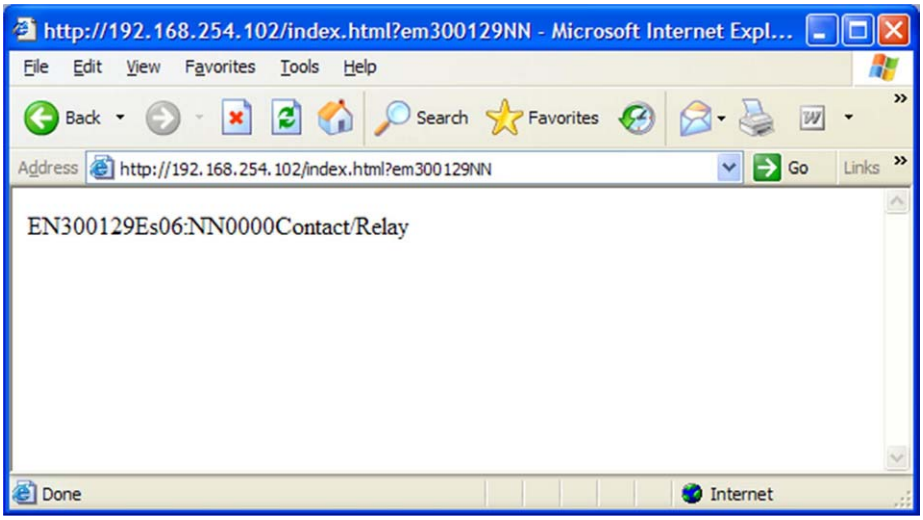
Sample Screens



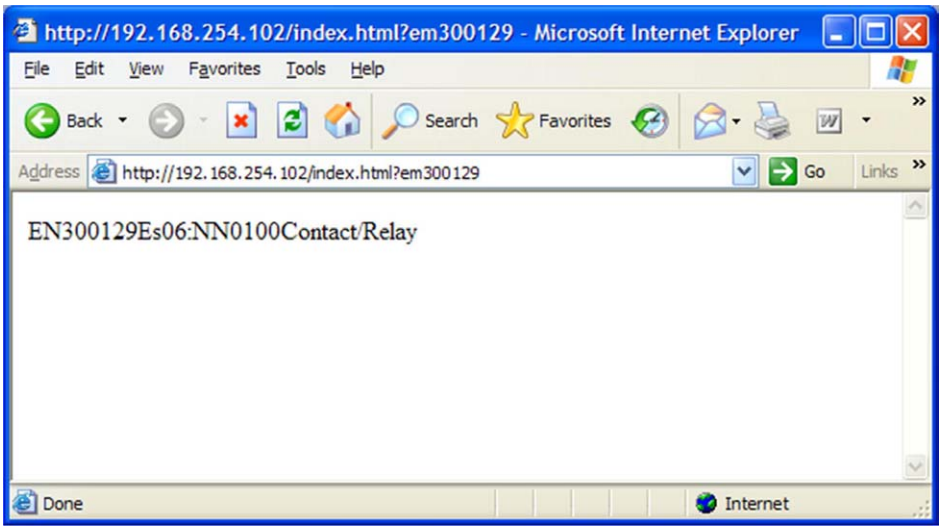
Example 1(above): Simple query/poll of ES06 and the associated response. Neither relay is energized, there is no contact closure detected between J2 Pins 3 & 4, nor J2 Pins 1 & 2. Also no 120 VAC is present at neither J3 Pins 1 & 2 nor J3 Pins 3 & 4.



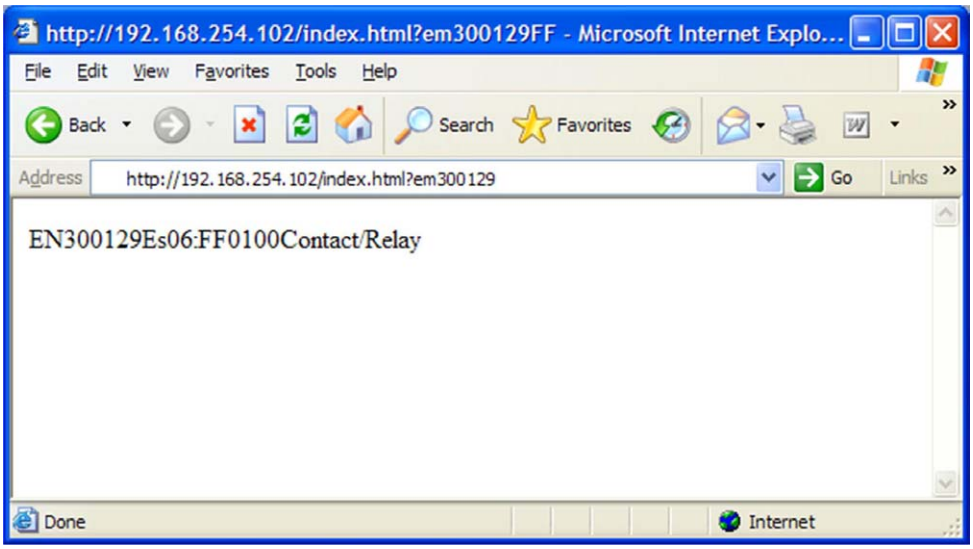
Example 2(above): Command issued to the ES06 to de-energize RELAY1 and to energize RELAY2.



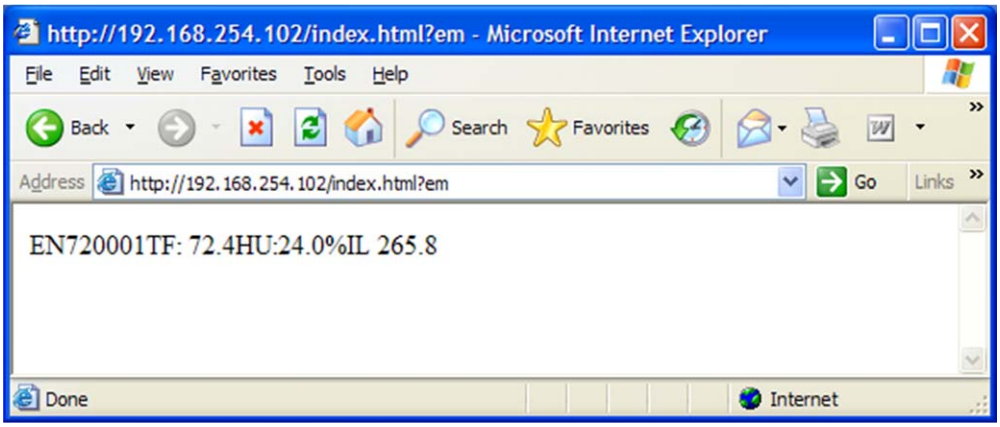
Example 3 (above): Command is issued to the ES06 to energize both RELAY1 and RELAY2.



Example 4 (above): Command is issued to poll the ES06. The ES06 responds that both RELAY1 and RELAY2 are energized and that contact closure (continuity) exists between J2 -
PINS 1 & 2.



Example 5 (above): Command is issued to poll the ES06. The ES06 responds that both RELAY1 and RELAY2 are
de-energized and that contact closure (continuity) exists between J2 PINS 1 & 2.



Example 6 (above): A regular Command is issued to poll the ES06/EM01B. The Websensor responds with temperature, relative humidity and illumination information. Also, the contact closure on the EM01B shows an *open loop* condition.

Appendix A – Plug-in's for the ES06/EM01B

The EM01B/ES06 Websensor is a polled device. System monitoring software such as Nagios (LINUX/UNIX environment) or (WhatsUP Professional 2006 Standard Edition) must be used to periodically poll the Websensor. Limits can be set in the software to initiate alerts when certain set-points are reached.

Plug-in's for Nagios and WhatsUP Professional 2006 Standard Edition are included on the supplied CD or they can be downloaded from the Esensors web-site:

http://www.eEsensors.com

Appendix B - SPECIFICATIONS

J2 Contact closure detection:

12 VDC at 3 mA present at PINS 1 & 2 and at PINS 3 & 4. The device providing the contact closure should be able to SINK this voltage/current.

J3 120 VAC presence/detection:

Sourcing device/circuit needs to provide 120VAC at 8 mA.

J4 Dry-Contact (Relay):

Relay can switch 3A @ 250VAC (See specifications for Potter & Brumfield Model T77S1D3-12 for additional details and specifications.)

APPENDIX C – Troubleshooting the Websensor

ISSUE: ES06 does not work – communications LED does not flash.

ANSWER: The ES06 requires support in the EM01B firmware. If the EM01B you have was received prior to March 1st 2006, the firmware will require upgrading to support the ES06. Given the firmware is correct, the problem may reside with the Esbus cable. Confirm proper connection. If issue is not resolved please call us.

ISSUE: 120 VAC was accidentally connected to the 12 VDC contact closure sense input – that input no longer detects contact closure.

ANSWER: The 12VDC contact closure input will not accept 120 VAC and results in damage to the optical isolator. The ES06 will need to be returned to Esensors for repair. Contact us for a RMA number and shipping instructions.

ISSUE: The relay/actuators on the ES06 will not respond.

ANSWER: First confirm that you are able to PING the EM01B which the ES06 is connected to. If the EM01B responds to the PING, confirm that the ES06 device address used in the command matches the number on the ES06 board. If still having difficulty, please contact Esensors for technical assistance.

Appendix D - SERVICE and SUPPORT

For configuration support contact:

TechHelp@eEsensors.com,

or call 716-837-8719
(from 9 AM to 4 PM Eastern time.)

Also, reference the Esensors website:

http://www.eEsensors.com.

An FAQ section is currently being developed for the Esensors, Inc. website.

Please check the Esensors website periodically for posting of the FAQs and application note information.

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