Wise Relay Module Setup

This quick start guide describes the steps necessary to setup and configure your WISE-7167 relay switch and Spyder*Guard*. The WISE (Web Inside, Smart Engine) relay block is a product series developed by ICP DAS that functions as a control unit used for remote logic control and monitoring in various industrial applications. The WISE-7167 follows the IEEE 802.3af-compliant (classification, Class 1) Power over Ethernet (PoE) specification so it can receive power from a PoE enabled network switch by Ethernet cable. For non-PoE capable switches, the WISE-7167 can receive power from auxiliary power sources like AC adapters or battery. The WISE-7167 relay block supports Modbus/TCP protocol for seamless integration with the SCADA software available. It features 8-channel power relay outputs. Each power relay supports contact rating as 5 A @ 250 VAC or 5 A @ 30 VDC.

Before configuring the relay block, it is assumed you have a fully functioning Fike Video Analytics video system up and running, including Fike Video Analytics IP cameras, network switches, FSM-IP NVR and Spyder*Guard* User interface.

Step 1 – Install your WISE-7167 relay switch on the same network as your Fike Video Analytics system following the manufacturer's installation instructions.

Step 1A – Make sure the switch is in the "Normal" Position as shown in figure to the right.

Step 2 - Configuring Relay Module ICP-DAS: WISE 7167

Wise 7167 is an Ethernet module providing 8 dry contact relays. Installation and configuration manuals for the module can be found at the company website: http://wise.icpdas.com/products/WISE-7167.html. Before this module can be used, it is necessary to configure its network settings so they will be compatible with the local network where the module will be used. The factory default sets the static IP address of the module to 192.168.255.1. This address is chosen so that module is unlikely to collide with any other device on the network. Before proceeding with network configuration, it will be necessary to choose a new static IP address for the device so it will be visible on LAN and have no conflicts with other devices. The address shall be provided by the network administrator. It is important that address provided will be from the reserved static IP address range. The IP address is the only way to connect to the module and it does not support Dynamic IP address assignment via DHCP.

Step 3 - Network Setup

The network setup is done using the device's Web interface on any computer. However, in order to communicate to a device that just came from the factory, one shall make temporary changes to computer network setup first. The whole process is done in steps:

1. Change computer network settings to static IP: 192.168.255.2 with network mask 255.255.255.0, no default gateway necessary.

2. Connect the device to a network

3. Use the Web Browser to connect to following URI: http://192.168.255.1 when ICP/DAS web page appears, go to *Basic Settings* / *Ethernet Settings* and set IP, Mask and Gateway addressed to ones provided by network admin. Save the changes.

4. After these changes are saved you no longer will be able to communicate on the same web page since device address has been changed. Roll back network setting for your computer and try to connect to the device again using browser and newly assigned IP address.

Step 4 - Configure the Fike Video Analytics Video Management Software

Open the video management software. The NVR should be added to the video management software user interface and the cameras should be configured and attached to the NVR. Add the WISE relay block by clicking the "**No relays**" status indicator on the lower menu bar. A dialog box will appear.
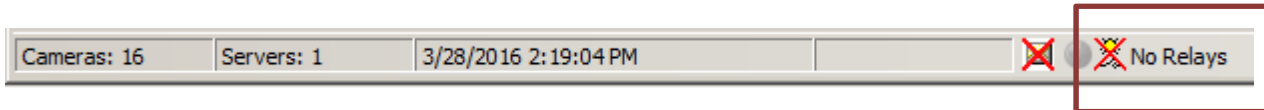

Use the pop up dialog box to select the Module type "Wise_7167" and enter the appropriate IP address. Click **Verify** to check communication with the relay module. "Searching for device…" will be displayed until communication with the device is established.
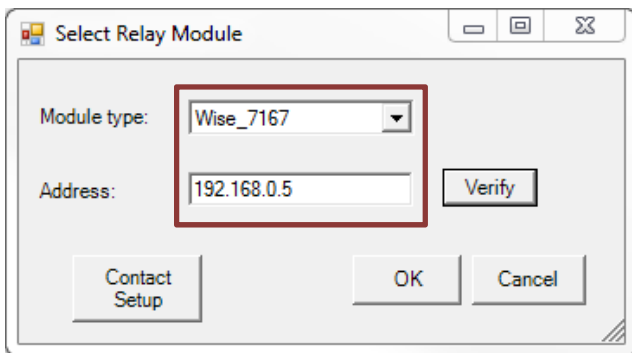
Once the relay module is connected and communication is established, the relay status indicator on the Main Window status bar (see image below) will change to indicate the connected status of the external relay module and the state of the module's eight relays. The relay status indicator will change from indicating "No Relays" to indicating "Relays" and a green indicator will illuminate to show the connected status of the relay module. The remaining indicators will illuminate (red) upon activation of each individual relay.

Once communication is established, click **Contact Setup** to configure the relays for normally open or closed operation.
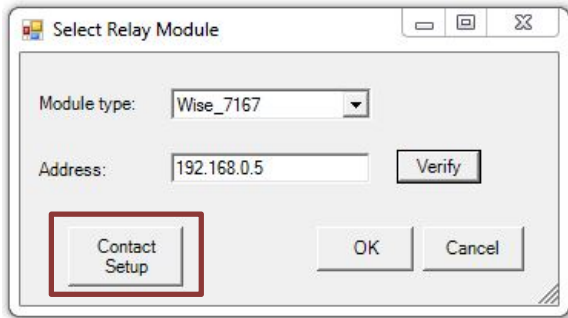
The *Relay Contact Type* form (shown below) will be displayed. From this screen, each of the seven relays available on the module can be configured for normally open (NO) or normally closed (NC) operation. By default, all relays will be set to normally open.
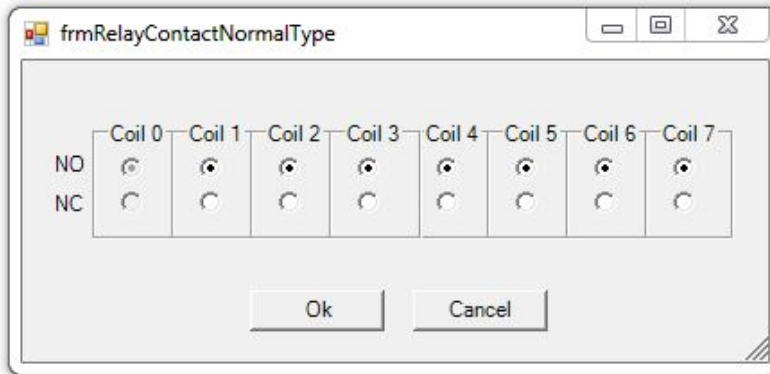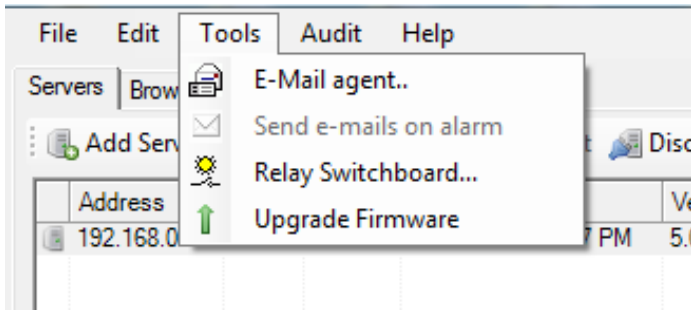

NOTE: Should power to the Wise relay module be lost, all relay contacts will default to the normally open state.

Click "**OK**" to exit the contact setup screen.

Select "**OK**" to add the relay block.

In the Spyder*Guard* menu at the top of the screen, select **Tools**, then **Relay Switchboard**.


Within the Relay Switchboard window (see below) you will find two tabs. The features within each tab will allow you to generate new rules, arrange the order of the rules, edit rules, delete rules, and test relay functionality. Initially the rules list will be empty. In order to populate the list, right-click within the list box and select *New rule* or click the *New Rule* button. In response the Video Analytics software will open the *Relay Rule Wizard*.
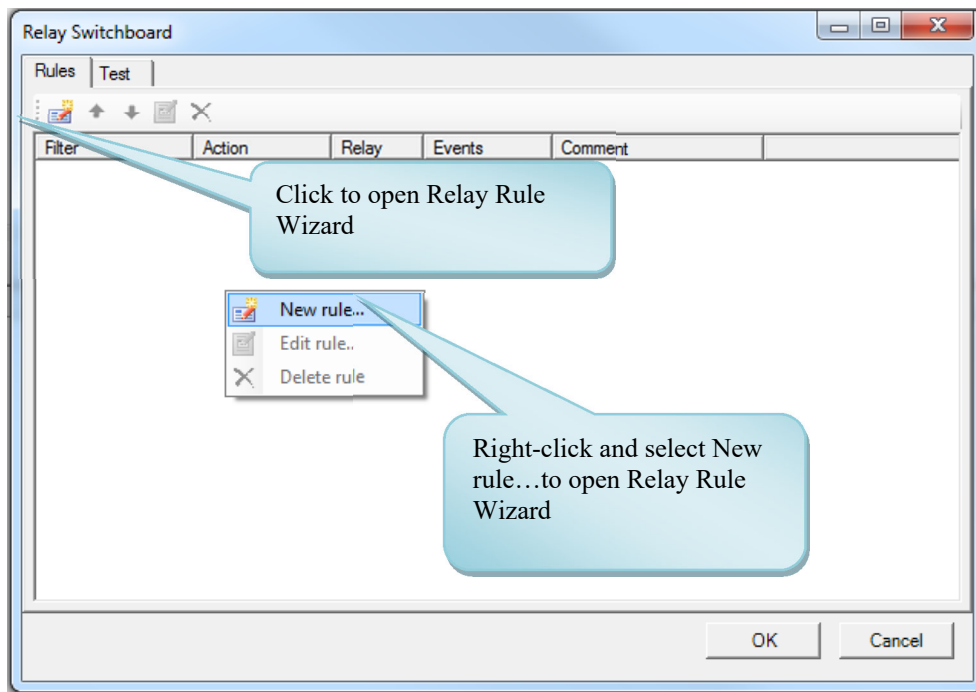

	Adds a new rule to the rules list.
	Allows you to navigate up the rules list.
	Allows you to navigate down the rules list.
	Allows you to edit the currently selected rule.

Each rule defines the action for a single relay. The Wise-7167 relay module has a total of 8 relays with one reserved for status leaving 7 relays (1-7) for user defined rules. Use the asterisk to define all the channels or select channels individually. Select the events for which you want the relay to engage using the *Filter* check boxes. When Action is set to *Include,* the relay will be engaged when any of the Filtered alarm types takes place. When in *Exclude* mode the relay state will override any other engaging rule.
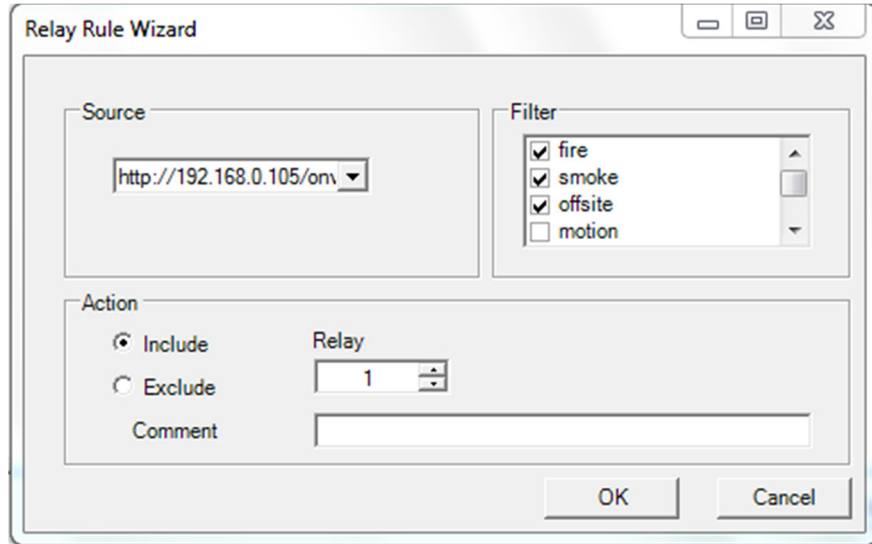

Source	Sets the IP address of the camera that will trigger the selected relay to activate. Use the asterisk to define all the channels or select channels individually.
Filter	Sets the event type(s) that will trigger the selected relay.
Action	Sets which relays will activate in response to the event. Include=Relay will be engaged when any of the filtered alarm types takes place. Exclude=Relay state will override any other engaging rule.
Comment	Enter a description of the function of the relay or any other comment associated with the relay operation.

In the following example, we created three rules. The first rule applies to all channels (designated by the asterisk symbol next to the cameras) and will close relay 1 when either a fire, smoke or offsite event(s) is triggered. The second rule also applies to all channels and will close relay 2 when a fault condition occurs. The third rule activates relay 3 when motion is detected on the channel with IP address 10.0.0.142.
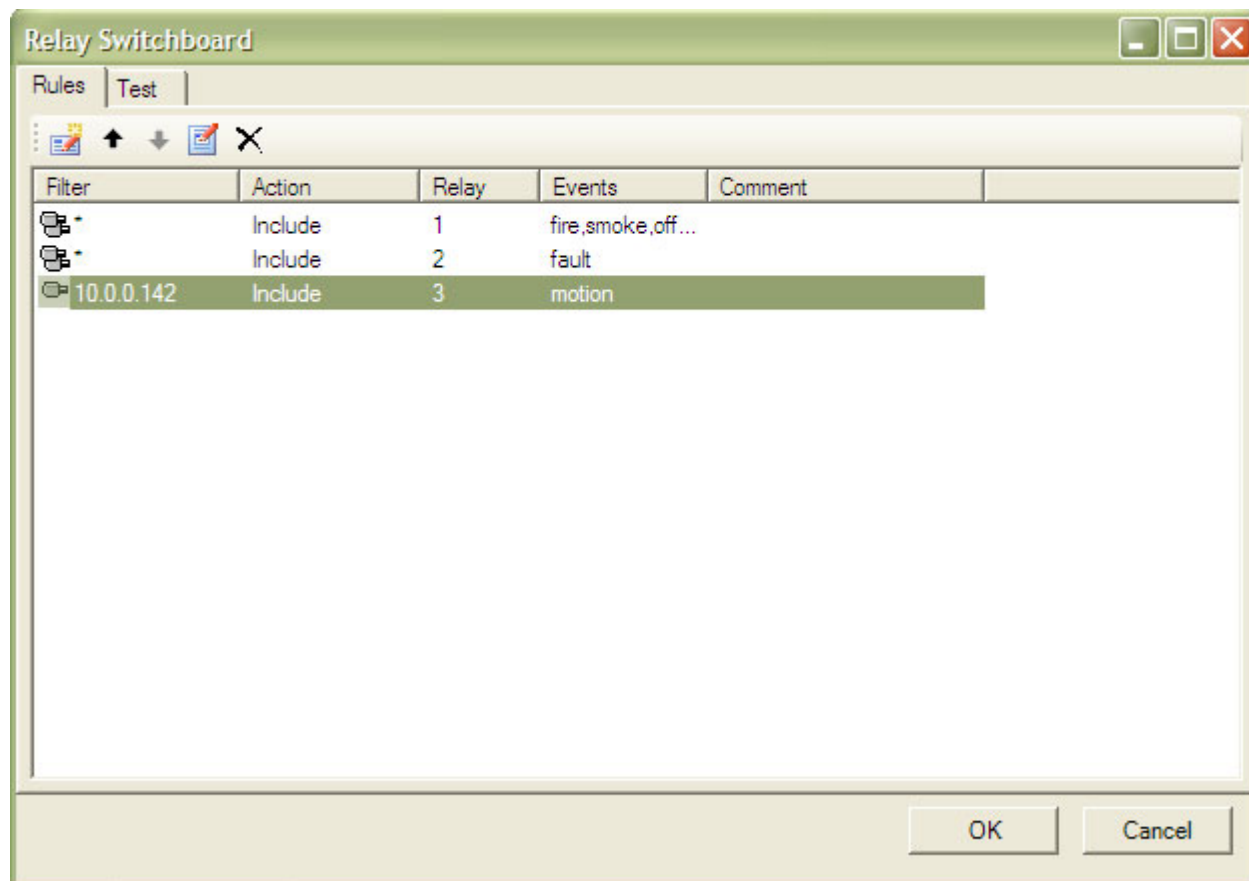
You may test the relay engagement by using the *Test* tab where each relay can be engaged/disengaged manually using the proper checkbox.
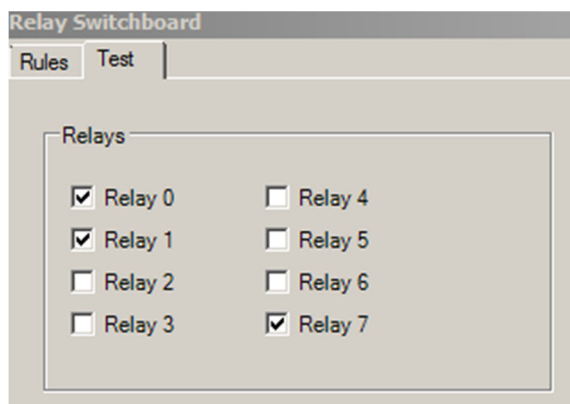
For further assistance, please call Fike Video Analytics Corporation technical support at (844-345-3843).