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Documentation

RokoNet Modbus RTU Guide

Version 3.x

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Intelli-Site

Security Management Software
RokoNet Modbus Video RTU Guide

PC Software RTU Interface Guide
For Windows 7 SP1, 2008 R2 SP1, XP SP3 & 2003 SP2

Version 3.x

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Table of Contents

Section 1 – Introduction

This section describes the following:

- Overview
- Technical Support Assistance

Overview

The RokoNet RTUs (Receiver/Transmitter Units) are the Intelli-Site software representations of the RokoNet Modbus Alarm Panels.

Technical Support Assistance

OSSI Headquarters

W228 N727 Westmound Dr.
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Technical Support

Technical support is available via Telephone, Fax or Email. Contact OSSI Technical Support 8:00 AM to 5:00 PM Central Standard time. If calling after hours, please leave a detailed voice mail message, and someone will return your call as soon as possible.

E-Mail: support@ossi-usa.com
Fax: 262-522-1872 (Attention Technical Support)
Local: 262-522-1870

When calling, please be at the computer prepared to provide the following information:

- Product version number, found by selecting the **About** button from the Intelli-Site Menu Application Bar.
- Product serial number used for registration.
- The type of computer being used including, operating system, processor type, speed, amount of memory, type of display, etc.
- Exact wording of any messages that appear on the screen.
- What was occurring when the problem was detected?
- What steps have been taken to reproduce the problem?

Section 2 – Modbus General Protocol Driver

This section discusses the addressing of the Modbus Driver RTU. This means that the address of a single item of all the parents addresses together.

Modbus Tags

The format for the address of a Modbus tag is ***SSTAAA[:CCOyy][A/B/bxx]*** where:

SS is slave address (ie module address). The slave address can be 0-255.

T is the type of tag this is. Valid values are **R** for registers (16 bit values) and **C** for coils (single bit values).

AAA is the address to be used. Valid values are 0-65535. ***[:CCOyy]*** **CC** is the count of a block of objects to be read. **O** is the offset for an individual value in the block. **yy** is the value of the offset. (Optional)

[A/B/bxx] is the type of data in the tree. **A** is for register types only, and sets a label value (ie. Counter will supply the label of 0-65535, the value of the register), **bxx** is for register types only, and chooses an individual bit out of the register, with **xx** being the bit number, 0-15.

B is for coil types. One of these MUST be present to have a complete tag.

The driver takes all the tags it can find, and compiles a list of items that must be polled. What is polled is unique combinations of ***SSTAAA:CC***

Note that the tree should be set up to read blocks of data whenever possible. Reading individual tags takes a lot longer than reading a block of tags.

Examples:
1R1000:100O1A - This is a Offset #1 from a block of registers from 1000-1099, sent up as a label value.

1C10B - This is a single coil value #10
1R2000b5 - This is a single Register, bit value #5.

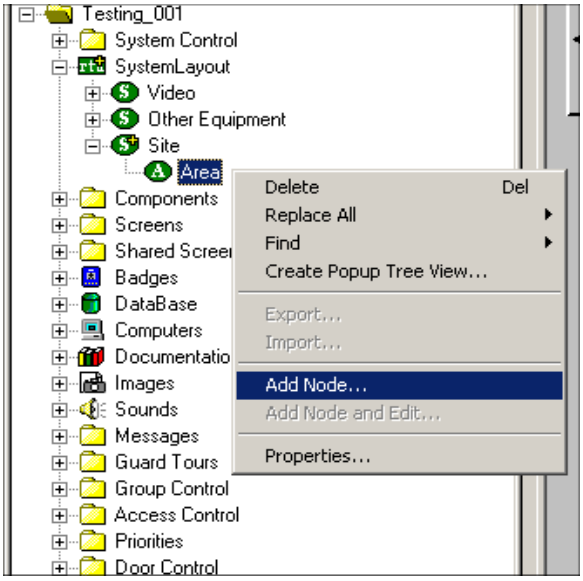
In order to send a command to set the value of a tag, the address needs to contain ***Vwwww*** where ***wwww*** is the value to set. For a bit or coil, ***wwww*** must be 0 or 1. The values should be children of the actual tag, and their address should be ***Vwwww*** exactly.

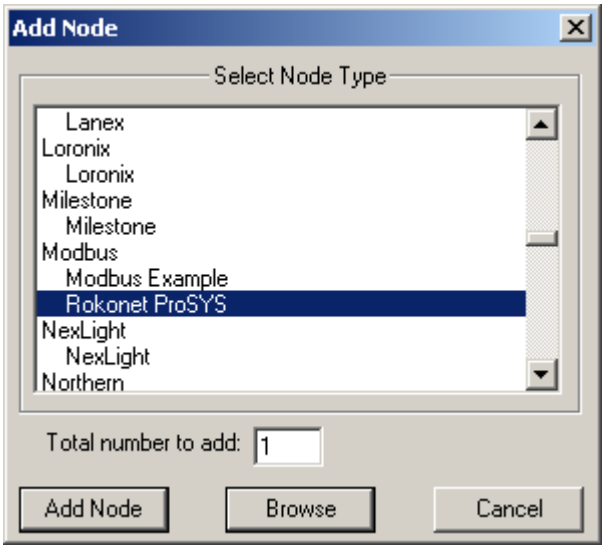
Section 3 – Rokonet Modbus RTU Setup

This section discusses the setup of RokoNet Modbus RTUs in the project in Graphic Design mode.

Adding Rokonet Modbus RTU Nodes

Rokonet Modbus RTU nodes are added by selecting the 'Add Node' menu option:

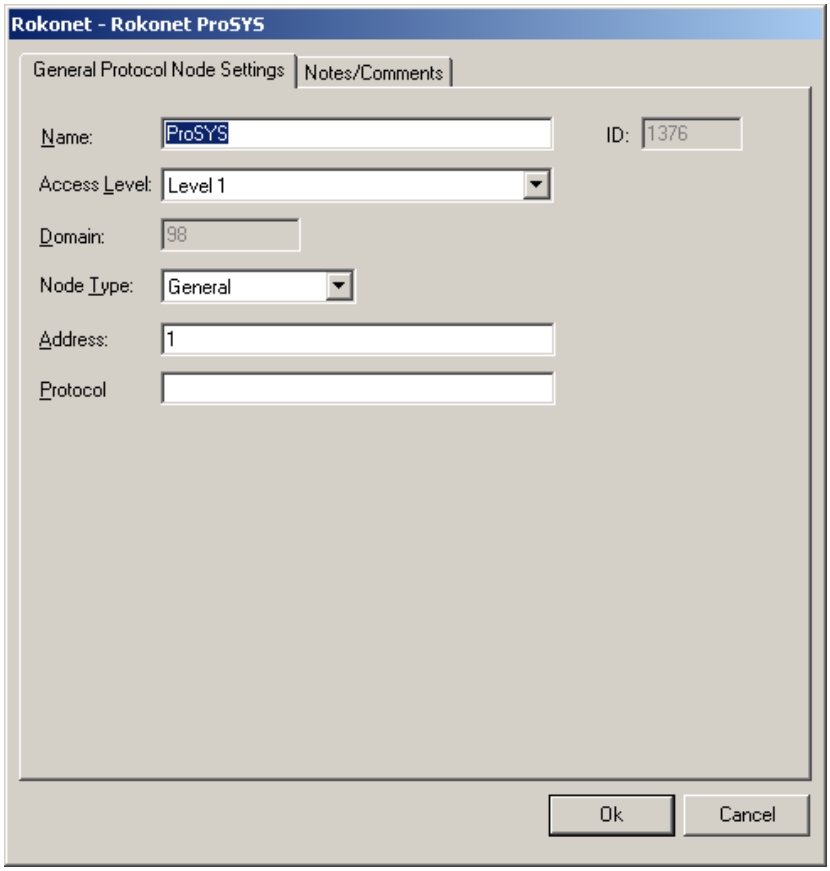




After selecting 'Add Node', a new Rokonet node will be created:

Configuring the Rokonet Node

After a Rokonet node has been added, it needs to be configured. This is accomplished by selecting the properties of the ProSYS node:



Select the 'General Protocol Node Settings' tab.

Additional configuration is done on a per level basis of the node in the Tree. Using the above referenced section on the Modbus Tag structure the Rokonet Modbus RTU can be modified to fit the configuration of an individual device.

Section 4- Performance and Word Counts

This section explains the addressing of the Rokonet RTU and performance.

Understanding addressing and performance

Performance is related directly to the number of polls an RTU performs. So, for example, if status counters are not to be used then that node can be deleted from under the RTU. This will improve performance due to less polls being performed.

Root Node	**Register Number**	**Register Quantity**	**Polling**
Zone State	1038	Default:16 (2 per Zone)	1
Partition State	0999	Default: 4 (2 per Partition)	1
System State	1015	2	1
Troubles	1299	8	1
UO Status	1599	Default: 2 (1 per UO)	1
Zone Partition Table	1699	Default: 8 (1 per Zone)	1
Status Counters	1829-1833	-	5
Zone Bypass	0000	Default: 8 (1 per Zone)	1
UO Command	0128	Default: 2 (1 per UO)	1
Arm	0617	Default: 8 (1 per Partition)	1
Stay	0625	Default: 8 (1 per Partition)	1
Permanent Bypass	0199	Default: 8 (1 per Zone)	1
Disarm	0633	Default: 8 (1 per	1

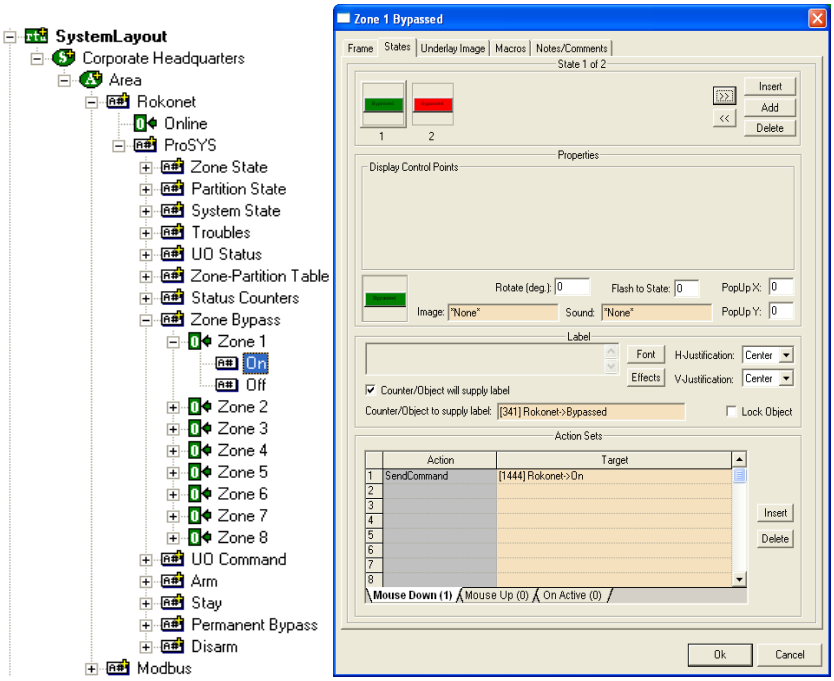
		Partition)	

The values listed above for Register Quantity contain the defaults, and the amount to increase the default to add one item. For example, in order to increase the number of Zones below the Zone State group, the number would be increased from 16 to 18. The address would then read R1038#18 instead of R1038#16. As stated, each of these quantities is directly determinant on the number of Zones, Partitions or UOs. The user will also need to add additional sub-nodes to receive/send the data. For example, to add an additional Zone Bypass, the register quantity needs to be increased by one. Next, the user should ctrl-drag-and-drop an existing Zone Bypass child node; rename it (eg. "Zone 9"), and change its address to be the next in the sequence.

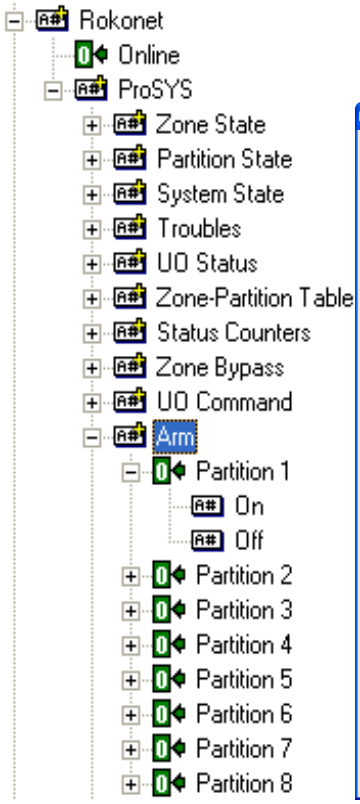
Section 5 – Programming Examples

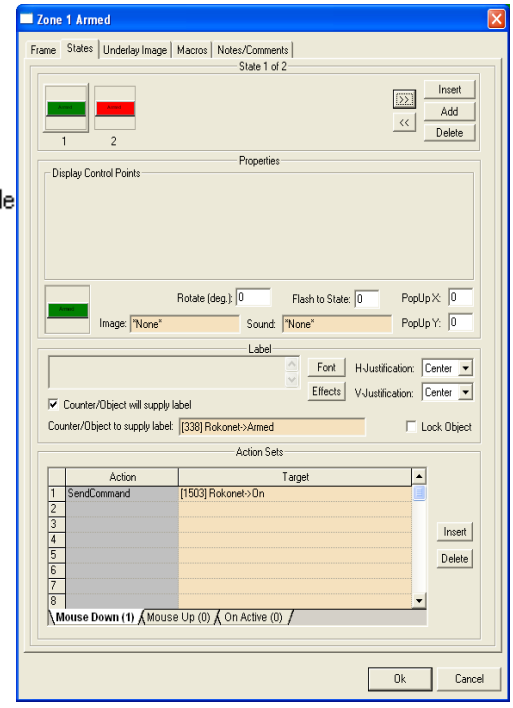
This section displays actual programming examples on how to utilize the Rokonet RTU.

Rokonet is considered a Gen Proto node type and as such Send Command is how any actions are executed. There are three different types of subnodes in the Rokonet RTU. The first type has listed underneath On and Off. These are points that are used to execute actions. In our example below we are setting a point on High to Bypass Zone 1. In the first image the point highlighted is our target to Send Command. The second image demonstrates the correct way to utilize the command.



This next set of images demonstrates how to properly execute the Arm command. Once again we are doing SendCommand with the target being the On point.





Points under the Zone State node, for example, can be used to monitor the status of a zone. Under the Zone State node for each Zone there are two different nodes. As you can see in the screen shot below the Display Control Point in the second state is the MW Trouble point for Zone 1 Troubles.