LonWorks Module

For use with

Y-200 Series Electronic Boiler Sequencer & Outdoor Reset Control System

Installation and Operating Manual

Raypak®

A Rheem® Company

Contents

Introduction

The Raypak® Y-200™ Series Controller with the Echelon® LonWorks® Module provides the ultimate in monitoring and control for Raypak heater applications. The LonWorks networking node can be integrated with other LonWorks systems to form total building control solutions.

The controller's LonWorks Module adheres to LonMark standards to ensure reliable and predictable integration with other systems, and has been certified by the LonMark Society.

IMPORTANT SAFETY INSTRUCTIONS

IMPORTANT NOTICE: These instructions are intended for use by qualified personnel who are specifically trained and experienced in the installation of this type of equipment and related system components. Installation and service personnel may be required by some states to be licensed. If your state requires certification, be sure your contractor bears the appropriate license. Only qualified persons shall attempt to repair this equipment. Repair must be according to these instructions.

WARNING: Improper installation, adjustment, alteration, service or maintenance may damage the equipment, create a hazard resulting in asphyxiation, explosion, fire, electric shock, personal injury or property damage, and will void the warranty.

CAUTION: MORE THAN ONE (1) SUPPLY SOURCE. THIS APPLIANCE HAS PROVISIONS TO BE CONNECTED TO MORE THAN ONE (1) SUPPLY SOURCE. TO REDUCE THE RISK OF ELECTRIC SHOCK, DISCONNECT ALL SUCH CONNECTIONS BEFORE SERVICING.

CAUTION: RISK OF ELECTRIC SHOCK. MORE THAN ONE (1) DISCONNECT SWITCH MAY BE REQUIRED TO DE-ENERGIZE THE EQUIPMENT BEFORE SERVICING.
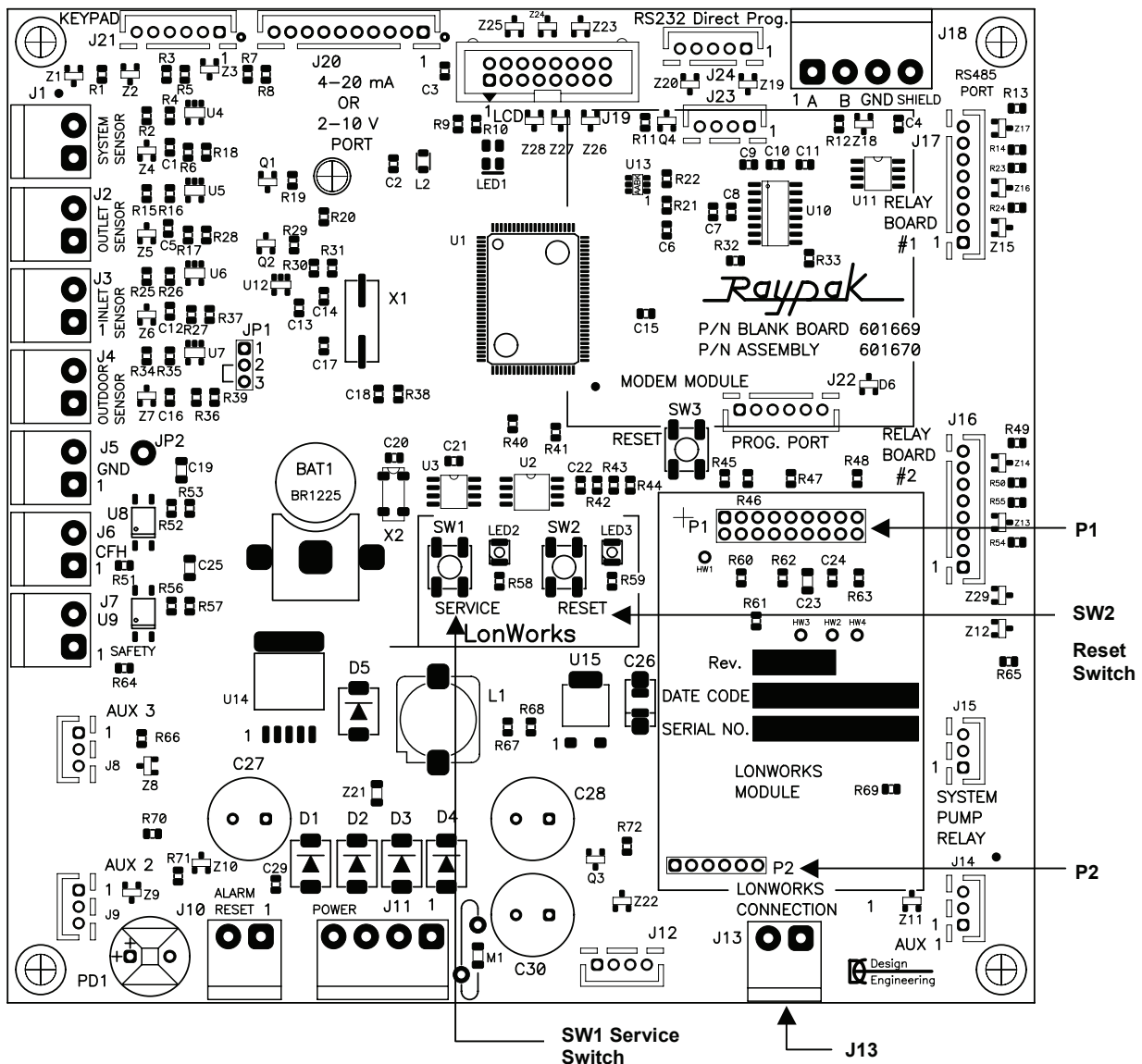
Installation

1. Turn off the power to the Y-200.

2. Open the front cover of the Y-200.

3. Open the "Display and Keypad" door to gain access to the Y-200 Control Board and Lon-Works Module mounting location.

4. Plug LonWorks Module onto the P1 & P2 connectors on the Y-200 Control Board. (See diagram below.)

5. Connect communication cabling to the 2-pin connector J13 (LonWorks connection). (See diagram below.)

6. Install conduit as appropriate for connection of communication cabling.

For LonWorks Communications Cabling

Use cable and installation techniques as specified in the LonWorks controller documentation.

Y-200 Control Board

System Start-Up Procedure

After installation has been completed power can be restored to the Y-200.

NOTE: If further instruction is required for screen displays refer to the Y-200 Installation and Operating Manual, P/N 241125, Catalog No. 5000.62.

1. Advance the Control Screen to Screen #19 and enter a valid password.

2. Advance to Screen #26 and activate the Lon-Works network module.

3. Once the LonWorks Module is activated, Screen #26 may request that the "Service" switch on the LonWorks Module be pushed for activation. The building system control monitoring screen may also request that the "Service" (SW1) switch be activated on the LonWorks Module. (The "Service" switch must be pushed for the network to identify the controller as a NODE). (See Y-200 Control Board diagram on page 2 for location.)

4. Sometimes the controller and/or the building System Control monitoring screen will receive a request for reset. If received, push the switch marked "Reset" (SW2) on the LonWorks Module. This is located beside the "Service" switch, as noted in Step 3 above.

   Upon successful activation, the receiving and transmission of data will be under LonWorks system control.

Raypak LonWorks XIF File

SNVT data is contained within the downloadable support files **XIF** (External Interface File) and **DRF** (Device Resource File), for installation within the LonWorks system. These files are available on the LonMark website, URL:

http://www.lonmark.org/products/prodinfo.cfm?ProductID=567

Or on the Raypak website: www.raypak.com

Raypak, Inc.
Y-200 Boiler Controller

LonMark Product Details

Manufacturer:	Raypak, Inc.
Product Datasheet:	Y-200 Boiler Controller (PDF)
Device Class:	Boiler Controller
Communication Channel:	TP/FT-10
Usage:	Industrial / Commercial
LonMark Version:	3.3
LonMark Objects Supported:	0000 – Node Object / 8301 – Boiler Controller
Downloadable Files:	8000B45301040400.zip includes: XIF & DRF
Standard program ID:	8 000B4 5301 04 04 00
Agency Approvals:	cUL & UL
Product Availability & Sales Information:	Americas

LonMark

A standard Program ID is required for the application: Program ID = 90:00:B4:53:01:04:04:00

Manufacturer ID:	Raypak 0:00:B4
Device Class:	Boiler Controller = 0x53 : 0x1
Device Usage:	Industrial/Commercial
Channel Type:	TP/FT-10
Model Number:	0

LonWorks Table of Communication

Item	Description	Y-200 Screen	Value	Functions	Direction to Y-200	SNVT NVIDX	SNVT #
1	Boiler Enable			To enable or disable Y-200	Input	nviBoilerEnable	19
2	Boiler Command			To enable or disable Y-200	Input	nviBoilerCmd	21
3	Set Point	2	40 - 220°F	To write to Y-200 EPROM; In power failure, to stay the same	Input	nciHeatSetpt	6
4	Set Point	2	40 - 220°F	To write to Y-200 RAM; In power failure, reverts to original set-up	Input	nciSetpoint	25
5	MAX Temp	8	220°F	High water temperature limit	Input	nciHeatSetupMax	9
6	MIN Temp	8	40°F	Low water temperature limit	Input	nciHeatSetupMin	10
7	Boiler Load		0 - 100 %	To show the percentage of boiler or stage activity	Output	nvoBoilerLoad	29
8	Target Temp	12	40 - 220°F	To show the Target Temp	Output	nvoTargetTemp	28
9	Outdoor Temp	12	-40 - 220°F	Show outdoor temp	Output	nvoOutdoorTemp	34
10	System Temp	12	40 - 235°F	Show system temp sensor	Output	nvoSysTemp	36
11	Outlet Temp	17	-40 - 220°F	Show outlet temp sensor	Output	nvoOutletTemp	33
12	Inlet Temp	17	-40 - 220°F	Show inlet temp sensor	Output	nvoInletTemp	32
13	Heater Location Code	31		To identify the location of Y-200	Output	ncoLocation	0
14	Y-200 Alarms & Codes	7	See Alarm Chart for codes	To announce problem with Y-200 system	Output	nvoAlarm	4

Note: The rest of the SNVT's are reserved for custom made application software for future use.

Alarm Chart

Item	Failure Descriptions on Y-200 Display	Codes
1	System Normal	0
2	ILS > OLS	1
3	OSS is Open	4
4	OSS is Short	8
5	SYS is Open	16
6	SYS is Short or Water Temp > MAX	32 + 1024 = 1056
7	ILS is Open	64
8	ILS is Short or ILS > OLS	128 + 1 = 129
9	OLS is Open	256
10	OLS is Short	512

LonWorks nvoAlarm:

59 32 30 30 0 0 **0** AL_ALM_CONDITION PR_LEVEL_0 0 <0000> 2004/5/27/ 0:1:46:0 <000>

0 : See the above table

LIMITED WARRANTY

Y-200 LonWorks Module
for Y-200 Series Electronic Boiler Sequencer
& Outdoor Reset Control System

SCOPE OF WARRANTY

Raypak, Inc. ("Raypak") warrants to the original owner the Control System to be free from defects in materials and workmanship under normal use and service for the applicable warranty period. In accordance with the terms of this Limited Warranty, RAYPAK will furnish a replacement or repair, at our option, any defective part which fails in normal use and service during the applicable warranty period. The replacement or repair will be warranted for only the unexpired portion of the original Warranty Period.

APPLICABLE WARRANTY PERIOD

The effective date of warranty coverage is the date of original installation, of the Control System, by a qualified electrician or by a RAYPAK authorized service technician. The Applicable Warranty Period is one (1) year from the effective date.

WARRANTY EXCLUSIONS

This Limited Warranty does not apply:

1. if the control system is not properly installed by a qualified technician in accordance with manufacturer's installation instructions, applicable codes, ordinances and good trade practices,
2. to damage or malfunctions resulting from failure to properly install, operate or maintain the system in accordance with the manufacturer's instructions;
3. if the rating plate(s) or serial number(s) are altered, defaced or removed;
4. if the System is modified in any way or used with any non-factory authorized accessories or components;
5. to damage or failure from abuse, accident, act of nature, fire, flood, freezing or the like;
6. to accessories, rubber or plastic parts, light bulbs or glass parts;
7. if the System is moved from its original installation site; or if the original owner no longer owns the site or the System.

LABOR AND SHIPPING COSTS

This Limited Warranty does not cover labor costs for service, removal or reinstallation of any part nor shipping charges to or from RAYPAK'S designated repair center or to or from the installation site. All such costs are your responsibility.

HOW TO MAKE A WARRANTY CLAIM

To make a warranty claim, promptly ship (postage prepaid) or carry the defective part to a designated RAYPAK Service Dealer or Service Station in the United States, supplying proof of purchase and date of installation and the model and serial numbers. If you cannot locate a dealer, contact RAYPAK'S Service Department at the address/telephone listed below. Raypak reserves the right at all times to inspect the claimed defect and verify warranty coverage at its factory.

EXCLUSIVE WARRANTY - LIMITATION OF LIABILITY

This is the only warranty given by RAYPAK. No one is authorized to make any other warranties on Raypak's behalf. **ANY IMPLIED WARRANTIES, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, SHALL NOT EXTEND BEYOND THE APPLICABLE WARRANTY PERIOD SPECIFIED ABOVE. RAYPAK'S SOLE LIABILITY WITH RESPECT TO ANY DEFECT SHALL BE AS SET FORTH IN THIS LIMITED WARRANTY. ANY CLAIMS FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING DAMAGE FROM WATER LEAKAGE) ARE EXCLUDED.** Some states do not allow limitations on how long an implied warranty lasts, or for the exclusion of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

We suggest you immediately complete the information below and retain this Limited Warranty Certificate in case warranty service is needed.

RAYPAK, INC. SERVICE DEPARTMENT
2151 Eastman Avenue, Oxnard, California 93030
Telephone: (805) 278-5300   FAX (805) 278-5468

The following information must be provided when you write or call:

Original Owner	Model Number
Mailing Address	Serial Number
	Date of Installation
City State Zip Code	Installation Site
Daytime Telephone Number	Contractor/Installer

ISO 9001
Registered Quality Management System

www.raypak.com