Price $5.00

BINMASTER®

Taking Control . . .To A Higher Level

IMS ALARM
3 PORT RS485
EXPANSION BOX

OPERATING INSTRUCTIONS

READ THOROUGHLY BEFORE INSTALLING EQUIPMENT

BINMASTER®
Division of Garner Industries
7201 No. 98th Street - Lincoln, NE 68507-9741
(402) 434-9102 Fax (402) 434-9133
www.binmaster.com

9250147.fm

TABLE OF CONTENTS

GENERAL SPECIFICATIONS **3**

INTRODUCTION **4**

RS232 CONNECTION **4**

COMPATIBILITY **4**

SETUP **5**

RS485 WIRING **6**

NTR SWITCH SETTINGS **7**

ALARM RELAYS **7**

BINMASTER®

Taking Control…To A Higher Level

IMS ALARM
3 PORT RS 485
GENERAL SPECIFICATIONS

Supply:	115 Vac
Load:	2.0 VA
Enclosure:	Type 1
Relay Output:	DPDT contacts; 5 Amps 250 VAC
IMS Version requirements:	Version 2.0 or later (Windows version)
PC Serial Port	RS232

INTRODUCTION

The BinMaster IMS Alarm/ 3 Port RS485 expansion box provides 3 different RS 485 Ports and three SPDT relay outputs for system alarm conditions. There are 3 system alarm conditions, LOW, HIGH, and ERROR. The LOW level alarm relay will activate when any of the SmartBobs has triggered a Low level alarm in the IMS program. The HIGH level alarm relay will activate when any of the SmartBobs has triggered a High level alarm in the IMS program. The ERROR alarm relay will activate whenever there is a system error in the IMS program. A system error could be either a SmartBob not responding to a measurement command, or a Bob that has not retracted completely.

The BinMaster IMS Alarm/3 Port RS485 expansion box has a nine pin RS232 port and three RS 485 ports. The RS232 port is connected to a serial communications port on the PC running the IMS software. The three RS485 ports are labeled Port A, Port B, and Port C. Each of these RS485 ports can communicate with up to 30 Smart-Bobs.

RS232 CONNECTION

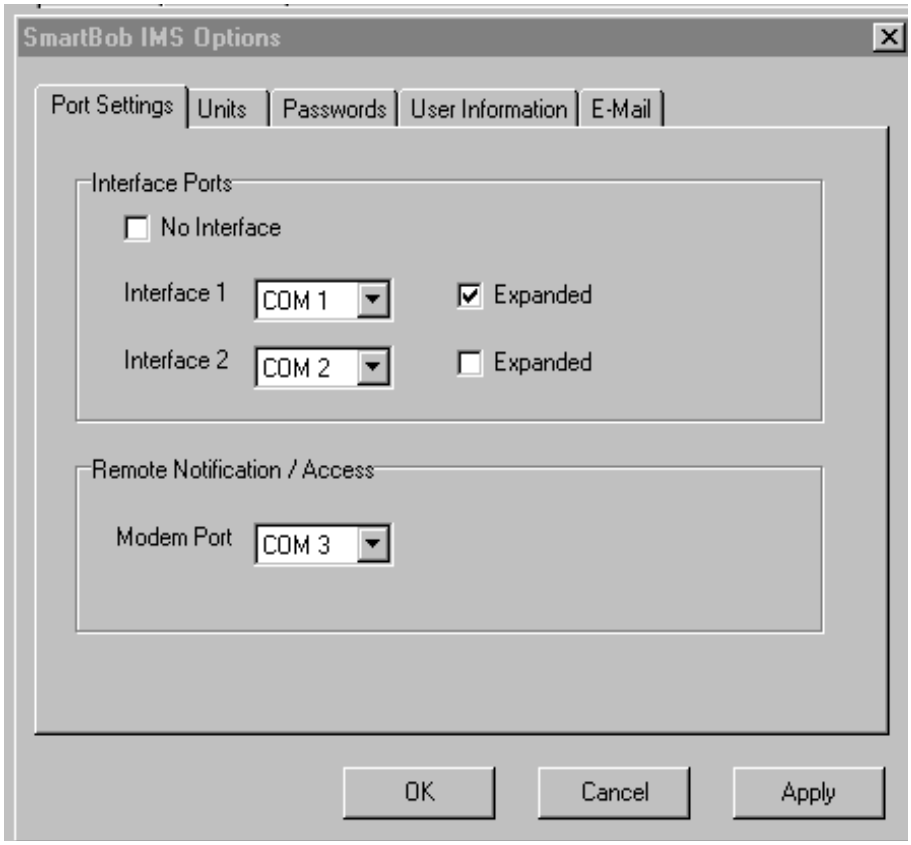
The IMS Alarm/3 Port RS485 expansion box has a female 9 pin D connector for connection to the serial port on the PC that is running the IMS program. The IMS program will need to be set up for the Com port that the IMS Alarm/ 3 Port RS485 expansion box is connected to.

COMPATIBILITY

The IMS Alarm/3 Port RS485 expansion box requires the BinMaster IMS software for Windows version 2.0 or later to utilize all of the features . The 3 Port RS485 expansion feature also functions with the BinMaster ActiveX Con-trol, however the Alarm relays are not supported by the ActiveX Control.

SETUP

To utilize the 3 RS485 Ports in the IMS software program, you will need to set the Port Settings options to "Expanded". This is done by slecting the Setup tab on the menu bar and selecting Options. This will bring up the SmartBob IMS Options window. Select the Port Settings tab. Select the appropriate interface and check the Expanded box. This will activate additional tabs for up to 90 bins.

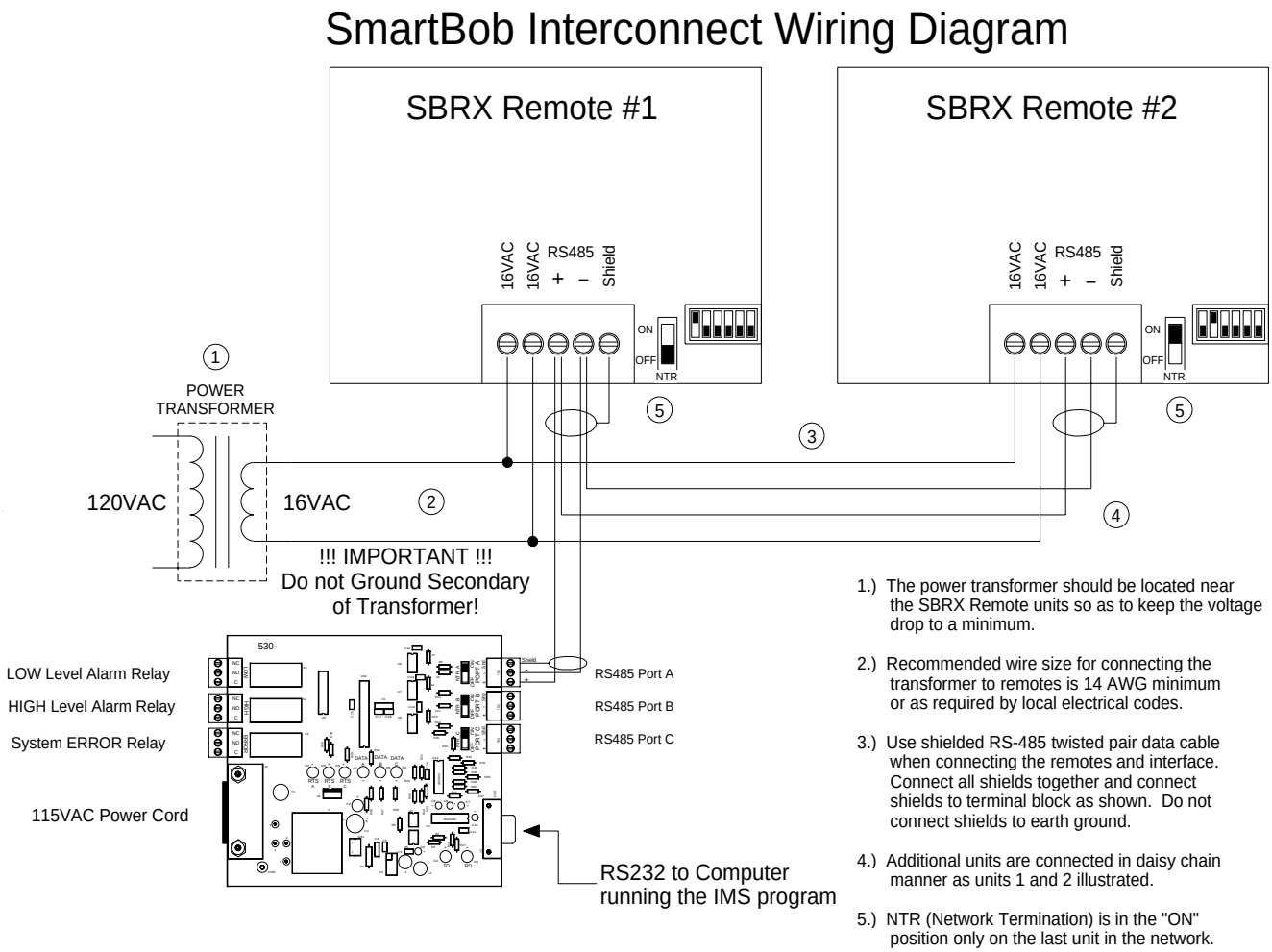


The SmartBobs connected to each port must be individually addressed from 1 through 30 by their address DIP switches. The IMS program will have 90 addresses when running in Expanded Port Setting. The SmartBobs that are addressed 1 through 30 in the IMS program will connect to Port A. The SmartBobs that are addressed 31 through 60 in the IMS program will connect to Port B. The SmartBob that is addressed 31 in the IMS program will be communicating with the SmartBob that is connected to Port B and has its address DIP switches set to address 1. The SmartBobs that are addressed 61 through 90 in the IMS program will connect to Port C. The SmartBob that is addressed 61 in the IMS program will be communicating with the SmartBob that is connected to Port C and has its address DIP switches set to address 1.

RS485 WIRING

There are three RS485 ports on the IMS Alarm/3 Port RS485 adapter box. The ports are labeled A, B, and C. Each port has a 3 terminal pluggable connector. The RS485 cable will have its (+), (-), and shield wires connected to their appropriate terminal. ***Be sure that the polarity of the RS485 connection is correct!***

The RS485 wiring ***must*** be wired in a daisy chain wiring scheme. All RS485 wiring ***must*** start at an RS485 terminal and terminate at an RS485 terminal. There can be no spliced or taps in the RS485 line. The RS485 ports on the IMS Alarm/3 Port RS485 adapter box provides the biasing for their RS485 daisy chain wiring. No other biasing of the line is required.



NTR SWITCH SETTINGS

Each RS485 port has an NTR switch located on the printed circuit board that is used to properly terminate the RS485 line. If the RS485 port is on the end of the daisy chain wiring scheme for the RS485 line then the NTR switch should be in the ON position. If the RS485 port is somewhere in the middle of the daisy chain wiring, then the NTR switch should be in the OFF position. In each SmartBob there is also an NTR switch, it should be set in the same manner. On the RS485 daisy chain wiring scheme, the NTR switch at each end on the daisy chain should be in the ON position. All of the rest of the NTR switches should be in the OFF position. There should

always be two and only two NTR switches in the ON position.

ALARM RELAY

The IMS Alarm/3 Port RS485 adapter box has three SPDT alarm relays. There is a Low Level Alarm relay, a High Level Alarm relay, and a System Error Alarm relay. The Low Level Alarm relay will pull in if the IMS program detects a Low Level alarm condition on any of the vessels that have their Low Level alarm active. The High Level Alarm relay will pull in if the IMS program detects a High Level alarm condition on any of the vessels that have their High Level alarm active. The Error Alarm relay will pull in if the IMS program detects a System Error when trying to take a measurement. A system error could be either a SmartBob not responding to a measurement command, or a Bob that has not retracted completely. In an alarm condition the relays make connection between the C terminal and the NO terminal. In a normal state there is a connection between the C and the NC terminals.

