45643913
Edition 1
April 2009

8 Position Bit Tray

Product Information

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Ingersoll Rand

Introduction

Intended Use:

This Bit Tray is designed to run multiple configurations with Ingersoll Rand Controllers.

For additional information refer to 8 Position Bit Selector Tray Product Safety Information Manual Form 45643905.
Manuals can be downloaded from www.irtools.com.

Background

The purpose of this document is to assist in the installation and configuration of the **Ingersoll Rand** 8 Position Bit Tray. The Bit tray can be used as a Basic Bit Holder or as a Smart Holder.

Scope

The scope of this document is limited to **Ingersoll Rand** 8 Position Bit Tray. Controllers and ICS software must have a release version 2.2.0 and above.

Requirements

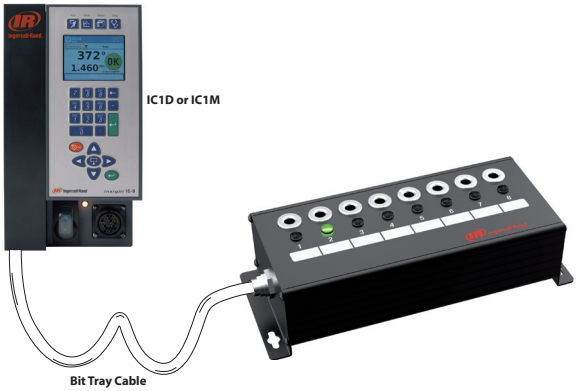
To successfully follow the instruction provided in this document the following parts are needed:

Description	Name - Manufacture	Version
Insight Controller	IC1D or IC1M - **Ingersoll Rand**	Any
Bit Tray	IC-BIT-8 - **Ingersoll Rand**	Any
Bit Tray Cable	IC-19PIN x*M	Any
PC running ICS	Any	2.2.0**

* x denotes the cable length in meters. Consult table 1 below for available standard lengths.
** Any version above 2.2.0.

Solution Overview

Below you will find an overview of the system configuration that is described in this document.



Bit Tray as a Basic Bit Holder

In this setup the Bit tray will be used to pick the correct configuration assigned to each Bit position. Picking the right Bit solely depends on the operator to make the right choice. In this mode there is no feed back to indicate that the right Bit was picked.

Hardware Setup

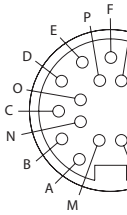
The tray is equipped with a 19 PIN Turck male connector[1].
Ingersoll Rand offers the mating cable at various lengths. See table below for assistance with part numbers.

Table 1: Optional I/O Cable Part Numbers

IR Part Number	Cable Length in Meters	Description
IC-19PIN-5M	5	8-position socket tray cord set with one side fly lead
IC-19PIN-10M	10	8-position socket tray cord set with one side fly lead

[1]

Male End View



M16 Connector

A = BLUE
B = GREY/PINK
C = RED/BLUE
D = WHITE/GREEN
E = BLACK
F = BROWN/GREEN
G = PINK
H = WHITE/YELLOW
I = GREEN
K = YELLOW/BROWN
L = BROWN
M = ORANGE
N = GREY/BROWN
O = VIOLET
P = WHITE
R = RED
S = GREY
T = YELLOW
U = TAN

Wire the I/O located on the side of the Insight Controller according to the cable Pin out table provided below.

Table 2: Ingersoll Rand Optional I/O Cable Pin Out

Receptacle PIN	Wire Color	Controller Terminal	Controller Assigned Signal
A	BLUE	+24 VDC	+24 VDC
B	GREY/PINK	2-I-1	INPUT: Config1
C	RED/BLUE	2-I-2	INPUT: Config2
D	WHITE/GREEN	2-I-3	INPUT: Config3
E	BLACK	2-I-4	INPUT: Config4
F	BROWN/GREEN	2-I-5	INPUT: Config5
G	PINK	2-I-6	INPUT: Config6
H	WHITE/YELLOW	2-I-7	INPUT: Config7
I	GREEN	2-I-8	INPUT: Config8
K	YELLOW/BROWN	-24 VDC	-24 VDC Lamp common

Receptacle PIN	Wire Color	Controller Terminal	Controller Assigned Signal
L	BROWN	1-O-1	OUTPUT: Phd Config 1
M	ORANGE	1-O-2	OUTPUT: Phd Config 2
N	GREY/BROWN	1-O-3	OUTPUT: Phd Config 3
O	VIOLET	1-O-4	OUTPUT: Phd Config 4
P	WHITE	1-O-5	OUTPUT: Phd Config 5
R	RED	1-O-6	OUTPUT: Phd Config 6
S	GREY	1-O-7	OUTPUT: Phd Config 7
T	YELLOW	1-O-8	OUTPUT: Phd Config 8
U	TAN	SPARE	SPARE
	SHIELD	GND	

For additional help follow the wiring diagram provided below;

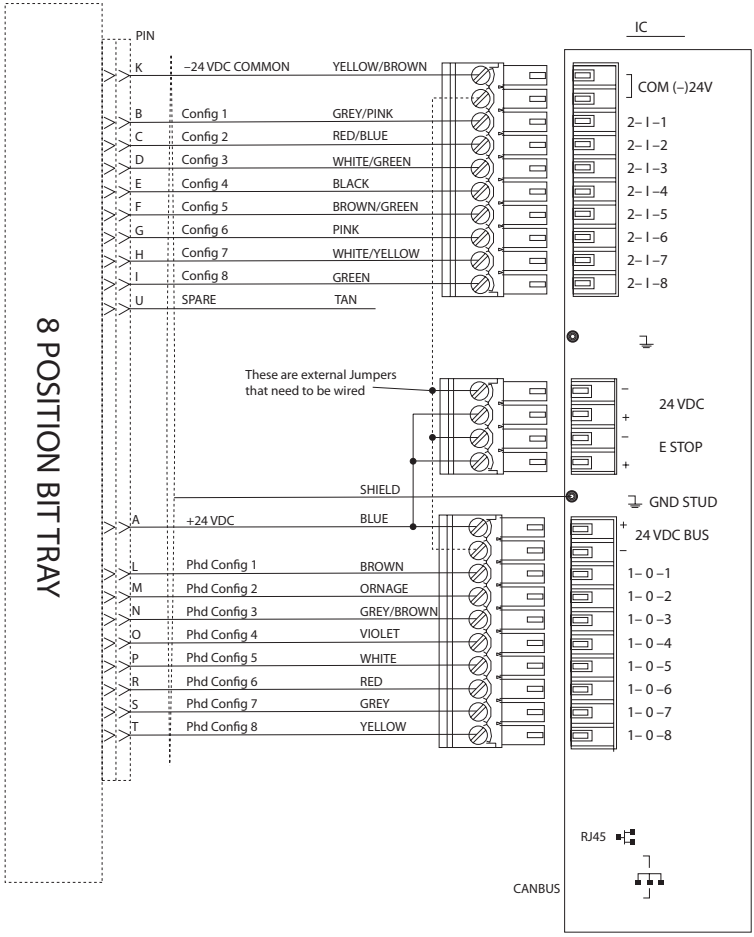


Figure 1: 8 Position Bit Tray Wiring

Software Setup

Assign Configuration Select

Log on to ICS software then select Setup choose General from the list. Select Spindle Initialization tab and set the Configuration Select to External Discrete.

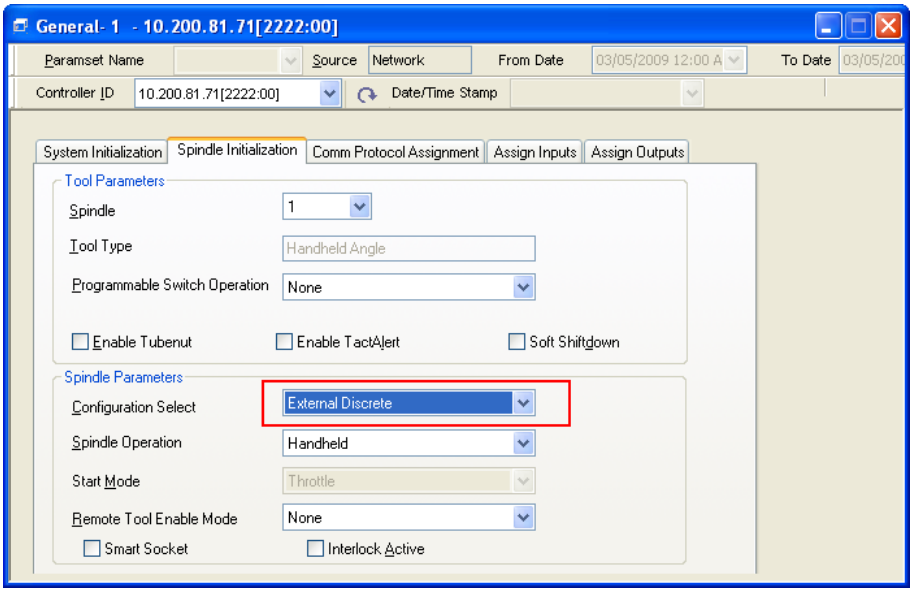


Figure 2: ICS Configuration Select

Assign Insight Controller (IC) Inputs

On the same screen select Assign Inputs tab and set your input as seen below. You can assign as many configurations as the Bit Tray can accommodate.

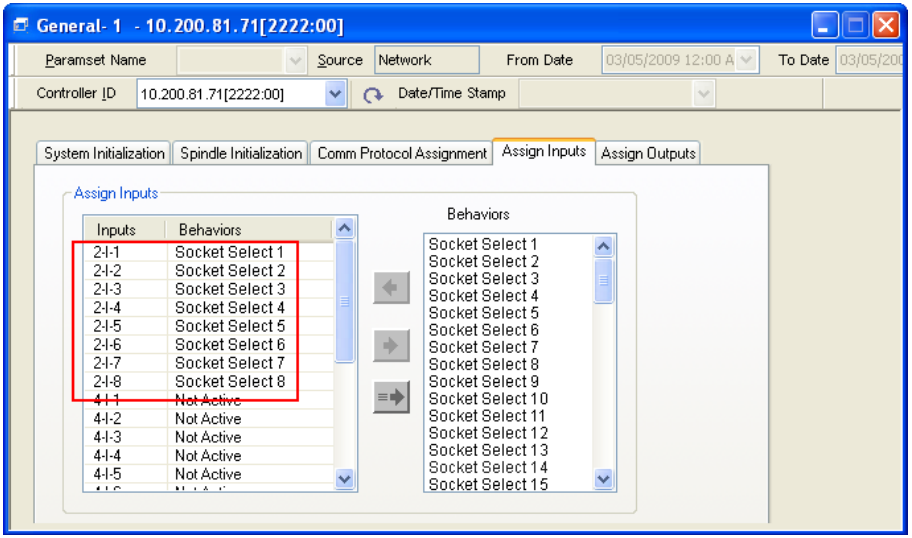


Figure 3: ICS Input Signals

Assign IC Outputs (Optional)

If you need to use the lights located on the Bit Tray to indicate that the Bit is in use, continue on assigning the output otherwise jump to "Reboot IC".

Open Assign Output tab and assign the outputs as seen below. You can assign as many inputs as the tray can accommodate.

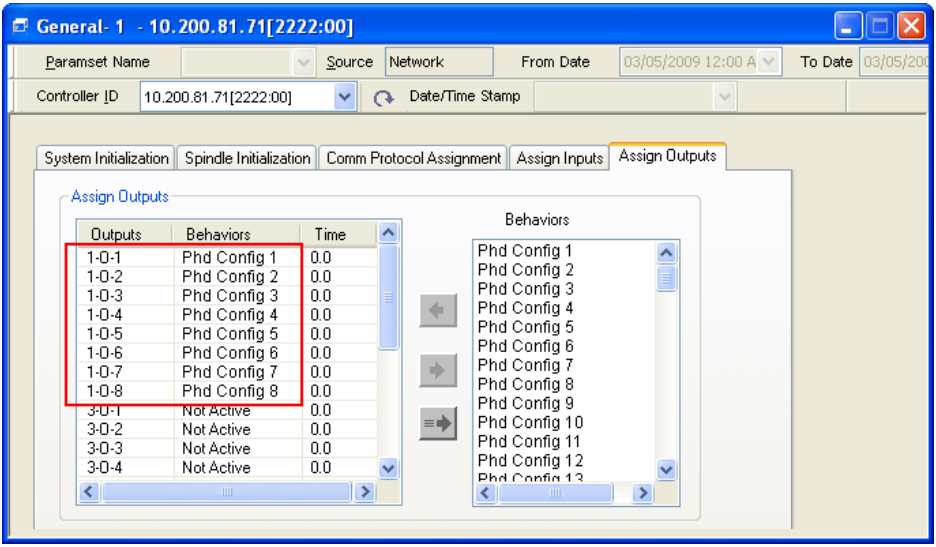


Figure 4: ICS Output Signals.

Reboot IC

Upon receiving a message indicating that changes will take effect after rebooting the controller. Please wait 30 sec and Turn the controller OFF, Wait 30 Sec than turn the controller back ON.

Upon successfully completing the above procedures, removing the bits now will program the configuration assigned to it. If you still need help contact **Ingersoll Rand** Service Group or your distributor.

Bit Tray as a SMART Bit Holder

In this setup the Bit tray will be used to program the correct configuration assigned to each Bit position. Removing only the correct bit will enable the tool to run. Tool will be disabled if the previous bit is not returned to the tray. Feedback is provided in this mode to assist the operator to remove the correct bit.

Hardware Setup

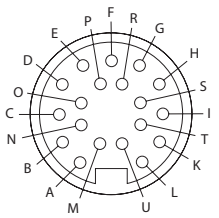
The tray is equipped with 19 PIN Turck male connector[2].
Ingersoll Rand offers the mating cable at various lengths. See table below for assistance with part numbers.

Table 3: Optional I/O Cable part numbers

IR Part Number	Cable Length in Meters	Description
IC-19PIN-5M	5	8-position socket tray cord set with one side fly lead
IC-19PIN-10M	10	8-position socket tray cord set with one side fly lead

[2]

Male End View



M16 Connector

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M = ORANGE
N = GREY/BROWN
O = VIOLET
P = WHITE
R = RED
S = GREY
T = YELLOW
U = TAN

Table 4: Ingersoll Rand Smart Bit Optional I/O Cable Pin Out

Receptacle PIN	Wire Color	Controller Terminal	Controller Assigned Signal
A	BLUE	+24 VDC	+24 VDC
B	GREY/PINK	2-I-1	INPUT: SocketSelect 1
C	RED/BLUE	2-I-2	INPUT: SocketSelect 2
D	WHITE/GREEN	2-I-3	INPUT: SocketSelect 3
E	BLACK	2-I-4	INPUT: SocketSelect 4
F	BROWN/GREEN	2-I-5	INPUT: SocketSelect 5
G	PINK	2-I-6	INPUT: SocketSelect 6
H	WHITE/YELLOW	2-I-7	INPUT: SocketSelect 7
I	GREEN	2-I-8	INPUT: SocketSelect 8
K	YELLOW/BROWN	-24 VDC	-24 VDC Lamp common

Receptacle PIN	Wire Color	Controller Terminal	Controller Assigned Signal
L	BROWN	1-O-1	OUTPUT: SocketSelect 1
M	ORANGE	1-O-2	OUTPUT: SocketSelect 2
N	GREY/BROWN	1-O-3	OUTPUT: SocketSelect 3
O	VIOLET	1-O-4	OUTPUT: SocketSelect 4
P	WHITE	1-O-5	OUTPUT: SocketSelect 5
R	RED	1-O-6	OUTPUT: SocketSelect 6
S	GREY	1-O-7	OUTPUT: SocketSelect 7
T	YELLOW	1-O-8	OUTPUT: SocketSelect 8
U	TAN	SPARE	SPARE
	SHIELD	GND	

For additional help follow the wiring diagram provided below;

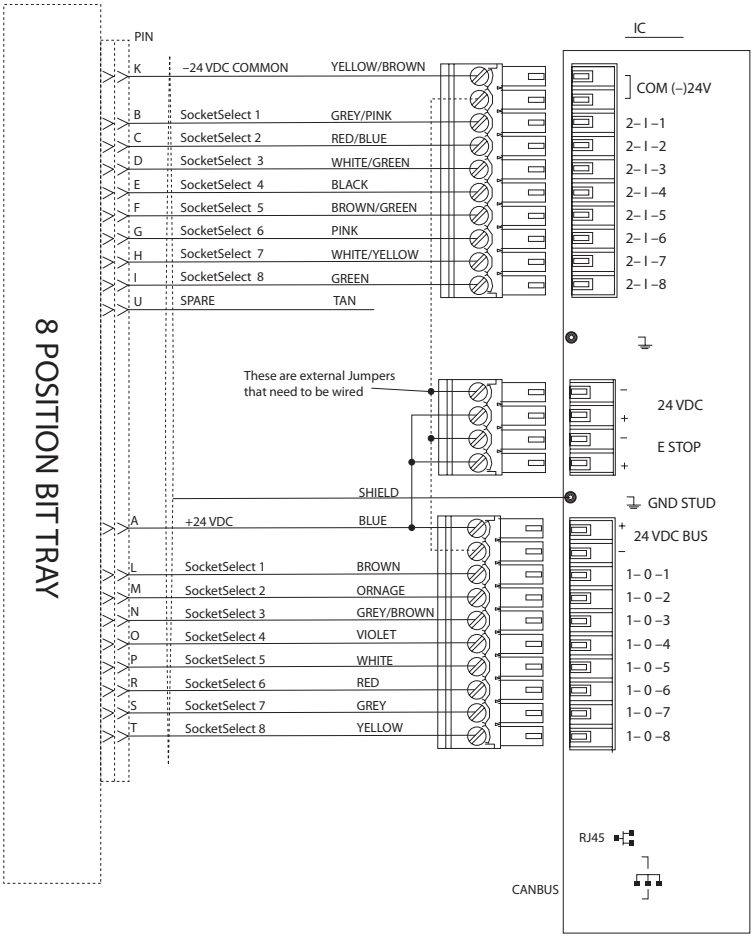

Figure 5: 8 Position Smart Bit Tray Wiring

Software Setup

Advanced Setup Step

Log on to ICS software then select Setup, choose Advanced from the list then choose Config number. Click on Engage Step Parameter then select the socket you want to map to this configuration. Also, at this screen set your Auto increment, Gang Count, and Reset to fields below. Do the same for other configurations.

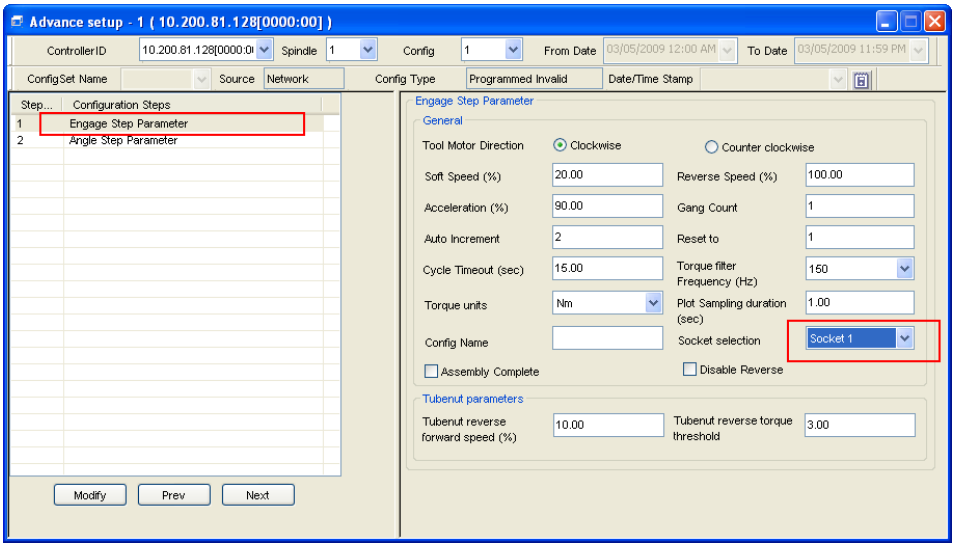

Figure 6: First Configuration Settings

The following is a screen shot of how the last configuration should be set. Note in this example, 8 configuration were set.

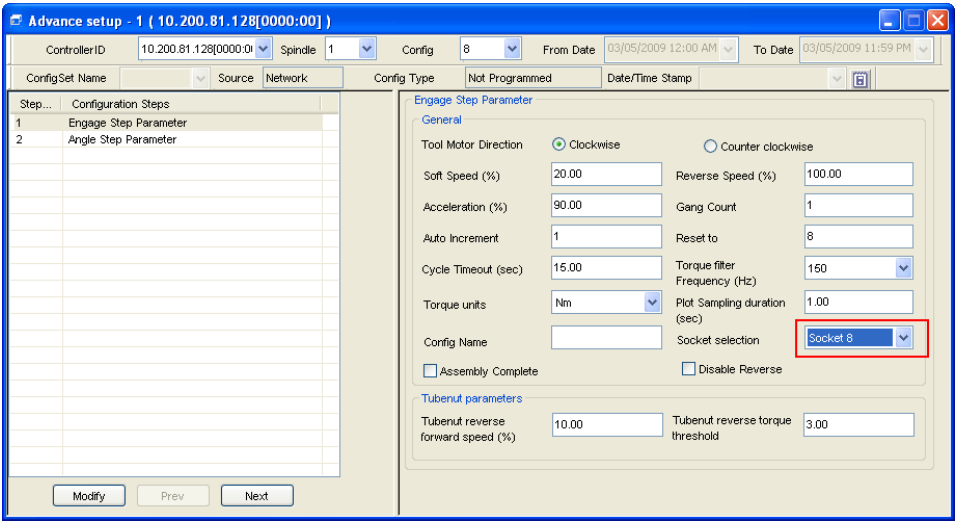

Figure 7: Last Configuration Settings

Assign Configuration Select

Log on to ICS software then select Setup, then choose General from the list. Select Spindle Initialization tab, select Internal from Configuration Select window and check Smart box.

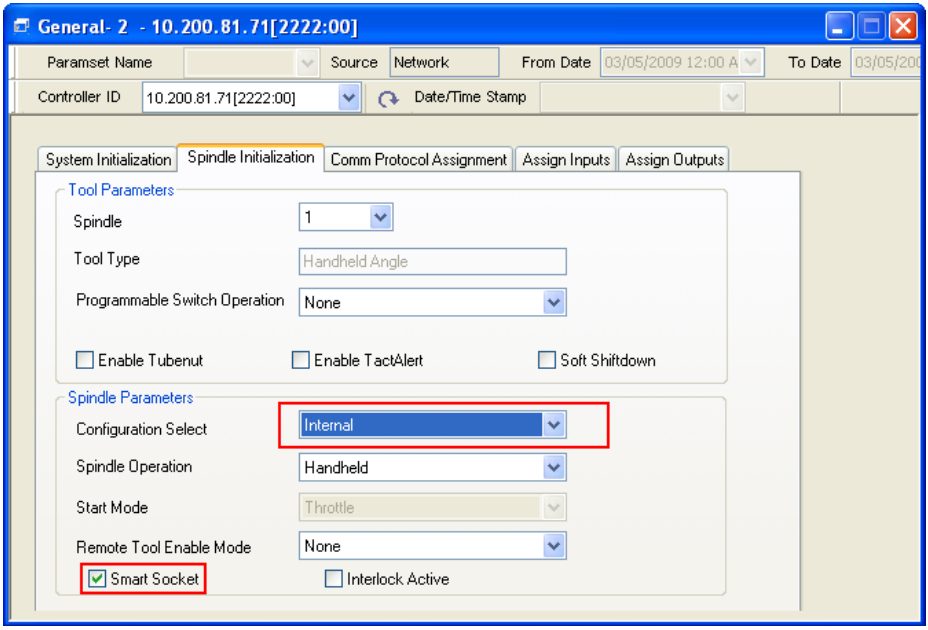

Figure 8: ICS Smart Socket Select Box

Assign Insight Controller (IC) Inputs

On the same screen choose Assign Inputs tab and set your input as seen below. You can assign as many configurations as the Bit Tray can accommodate.

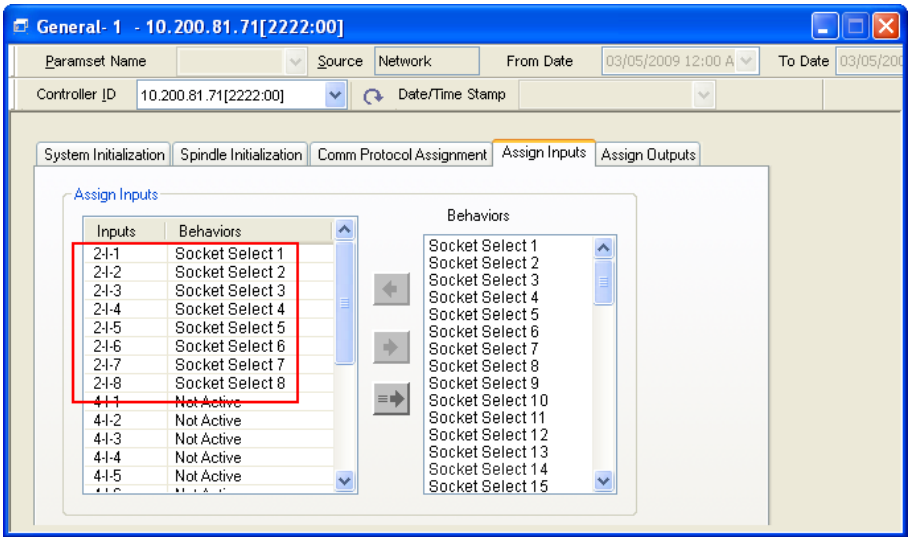

Figure 9: ICS Configuration Select

Assign IC Outputs

Open Assign Output tab and assign the outputs as seen below. You can assigns as many outputs as the tray can accommodate (using the extended I/O). These outputs will signal to the operator which bit should be used through the LED lights on the tray.

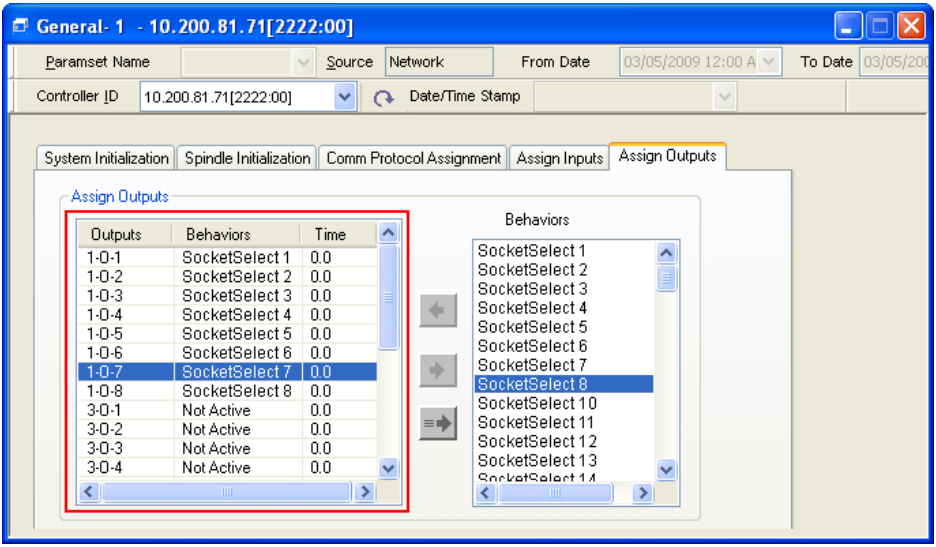

Figure 10: ICS Input Signals

Reboot IC

Upon receiving a message indicating that changes will take effect after rebooting the controller. Please wait 30 sec and Turn the controller OFF, Wait 30 Sec than turn the controller back ON. After the controller fully reboots go to the Run main screen on the Controller GUI then Select a configuration to start operation.

Upon successfully completing the above procedures you should have an indication through the lights onboard the Bit Tray to pick the correct bits. Picking the right bit will enable the tool to run the desired configuration. If you still need additional help contact **Ingersoll Rand** Service Group or your distributor.

Notes:

Notes:

www.irtools.com

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