

SMART WEIGHING SOLUTIONS



rinstrum

5100
Output Driver
Reference Manual

For use with Software Versions 3.1 and above

5100-605-110

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1. Introduction

The output module is for connection to the Rinstrum 5100 to provide up to 22 relay outputs. The outputs are controlled by an emergency stop input (X6). The outputs are also controlled by manual override mode, which is protected by the manual override enable (X7). The 5100 does not read the PLC inputs.

1.1. Operation

It operates by the 5100 continuously outputting to the NAIS PLC the required output status. This is done by the 5100 talking to the programming port of the NAIS in the programming language. It sets or clears registers R0 to R15 (hex), being outputs 1 to 22. It also sets register R1E every message. This is used as a timeout, so when the PLC does not receive messages for two seconds, it turns off all outputs.

1.2. Options

There are several options available with the NAIS PLC. The main module is required by all variations. The available options are :-

- NAIS Power supply
- 1st Expansion Unit (Outputs 7 to 15)
- 2nd Expansion Unit (Outputs 16 to 22)

2. Installation

2.1. Communications

The comms port of the PLC must be connected to either serial port1 or serial port2 of the 5100. The associated 5100 serial port must be set to type PLCB and the baud rate set to 9600. The other port of the 5100 will now be fixed to run at 9600 O81. Therefore you will have to set up Viewer to 9600 O81 after configuring the 5100, for Viewer to work.

2.2. Inputs

The switch inputs have a com terminal that should be connected to 24V. The switches will have to switch to zero volts

Switch input X6 is configured as an emergency stop switch, and must be closed for the outputs to operate.

Switch input X7 is configured as a manual override enable switch, and must be closed for the manual buttons to control the outputs.

The inputs X0 to X5, X10 to X17 and X20 to X27 are configured as the manual override switches, with the input terminal operating the same output terminal. (e.g.) X0 operates Y0. The manual override switch must be closed for these switches to have any effect. They will operate in parallel with the 5100.

The run stop switch must be in the run mode for the unit to operate.

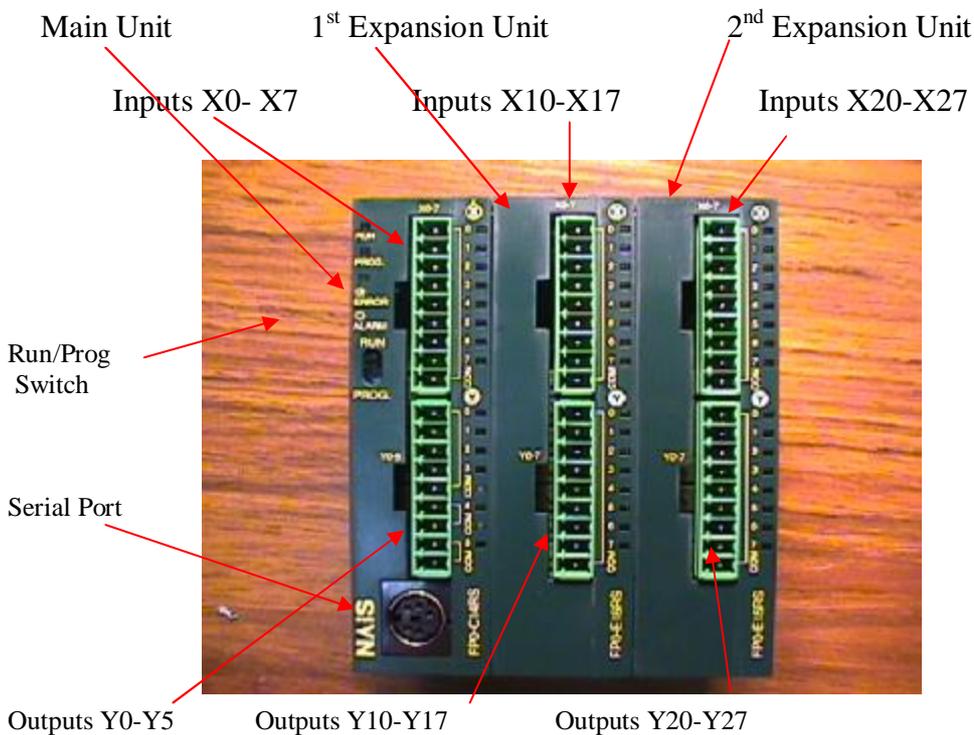
2.3. Outputs

The outputs are set up as relays 1 to 22 of the Rinstrum 5100. E.g. Y0 to Y5 is relays 1 to 6, Y10 to Y17 is relays 7 to 14, and Y18 to Y27 is relays 15 to 22. There is a common terminal on each module that needs to be wired for the outputs to supply voltage. The outputs will not operate if the emergency stop switch is not closed.

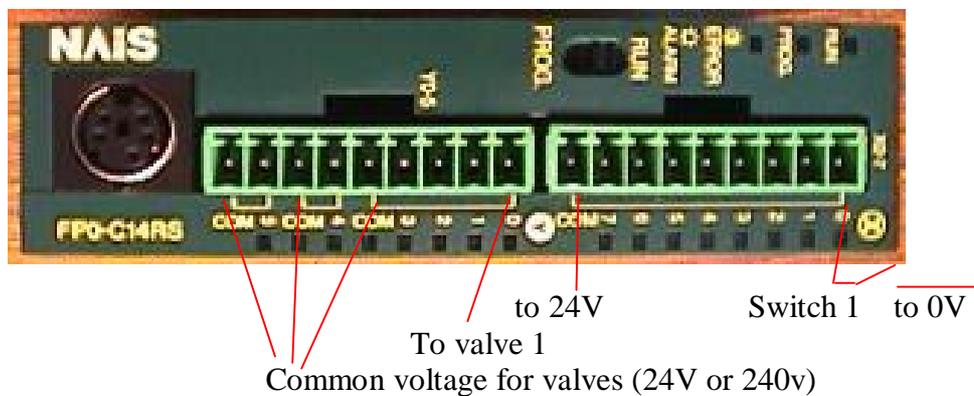
The outputs have a 2A @ 250VAC and 2A @ 30VDC per output and a 4.5A per common current rating.

2.4. NAIS PLC Wiring diagram

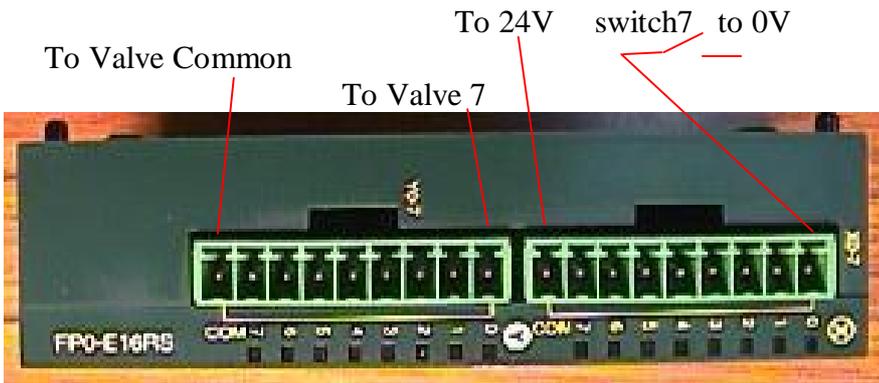
2.4.1. Configuration



2.4.2. Main Module

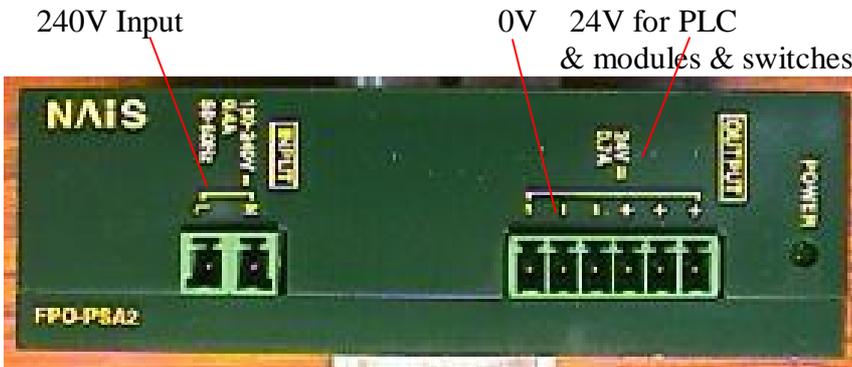


2.4.3. Expansion Module



There may be 2 of these modules. The second module will have switch 15 to 22 and outputs 15 to 22

2.4.4. Power Supply



The power supply unit will only supply 24V at 700 mA. This is enough for the PLC and the input switches. It is possible to drive a DC 5100 unit with this power supply as well. Care should be taken if this power supply is to be used for other tasks to ensure that it is not overloaded.

3. Fault Finding Table

Fault	Action
Unit does not operate.	<ul style="list-style-type: none"> • Power connected (power led on) • Unit in Run mode (run led on) • Emergency stop closed (X6 led on) • Input common terminal connected to 24V • Switches connected to 0V
Manual operates but 5100 control does not	<ul style="list-style-type: none"> • 5100 not set up with the correct serial port set to PLCB.
5100 control operates, but manual does not	<ul style="list-style-type: none"> • Manual override terminal not closed (X7 led on)

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