

5690 Simulator Module

Installation, Operation and Maintenance Setup Manual

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The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein. If you have any suggestions for improvements or amendments or have found errors in this publication, please notify us.

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All pertinent state, regional, and local safety regulations must be observed when installing and using this product. For reasons of safety and to help ensure compliance with documented system data, only the manufacturer should perform repairs to components.

When devices are used for applications with technical safety requirements, the relevant instructions must be followed. Failure to use Schneider Electric software or approved software with our hardware products may result in injury, harm, or improper operating results.

Failure to observe this information can result in injury or equipment damage.

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Safety Information

Read these instructions carefully, and look at the equipment to become familiar with the device before trying to install, operate, or maintain it. The following special messages may appear throughout this documentation or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of this symbol to a Danger or Warning safety label indicates that an electrical hazard exists, which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, **will result in** death or serious injury.

WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, **can result in** death or serious injury.

CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, **can result in** minor or moderate.

CAUTION

CAUTION used without the safety alert symbol, indicates a potentially hazardous situation which, if not avoided, **can result in** equipment damage..

PLEASE NOTE

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction and operation of electrical equipment and the installation, and has received safety training to recognize and avoid the hazards involved.

BEFORE YOU BEGIN

Do not use this product on machinery lacking effective point-of-operation guarding. Lack of effective point-of-operation guarding on a machine can result in serious injury to the operator of that machine.

 CAUTION
EQUIPMENT OPERATION HAZARD
<ul style="list-style-type: none">• Verify that all installation and set up procedures have been completed.• Before operational tests are performed, remove all blocks or other temporary holding means used for shipment from all component devices.• Remove tools, meters, and debris from equipment.
Failure to follow these instructions can result in injury or equipment damage.

Follow all start-up tests recommended in the equipment documentation. Store all equipment documentation for future references.

Software testing must be done in both simulated and real environments.

Verify that the completed system is free from all short circuits and grounds, except those grounds installed according to local regulations (according to the National Electrical Code in the U.S.A, for instance). If high-potential voltage testing is necessary, follow recommendations in equipment documentation to prevent accidental equipment damage.

Before energizing equipment:

- Remove tools, meters, and debris from equipment.
- Close the equipment enclosure door.
- Remove ground from incoming power lines.
- Perform all start-up tests recommended by the manufacturer.

OPERATION AND ADJUSTMENTS

The following precautions are from the NEMA Standards Publication ICS 7.1-1995 (English version prevails):

-
- Regardless of the care exercised in the design and manufacture of equipment or in the selection and ratings of components, there are hazards that can be encountered if such equipment is improperly operated.
 - It is sometimes possible to misadjust the equipment and thus produce unsatisfactory or unsafe operation. Always use the manufacturer's instructions as a guide for functional adjustments. Personnel who have access to these adjustments should be familiar with the equipment manufacturer's instructions and the machinery used with the electrical equipment.
 - Only those operational adjustments actually required by the operator should be accessible to the operator. Access to other controls should be restricted to prevent unauthorized changes in operating characteristics.

About The Book

At a Glance

Document Scope

This manual describes the SCADAPack 5690 Simulator.

Validity Notes

This document is valid for all versions of the SCADAPack 5690 Simulator.

Product Related Information

WARNING

UNINTENDED EQUIPMENT OPERATION

The application of this product requires expertise in the design and programming of control systems. Only persons with such expertise should be allowed to program, install, alter and apply this product.

Follow all local and national safety codes and standards.

Failure to follow these instructions can result in death, serious injury or equipment damage.

User Comments

We welcome your comments about this document. You can reach us by e-mail at technicalsupport@controlmicrosystems.com.

Overview

The SCADAPack Model 5690 simulator module is designed to provide digital, counter and analog inputs for the SCADAPack 334 controller. These inputs can be used to simulate the I/O used in an application program.

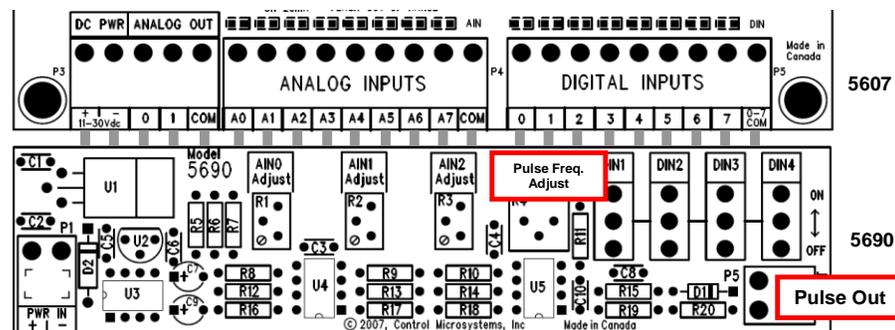
Specifications

5690 IO Simulator Function	SCADAPack 334 Connection	Comments
PWR IN (P1)	5607 DC PWR input 5210 DC PWR input	Wired externally to the 5210 power input.
AIN0 Adjust Potentiometer AIN1 Adjust Potentiometer AIN2 Adjust Potentiometer	5607 Analog Input 0 5607 Analog Input 1 5607 Analog Input 2	0 to 20mA/10V. Adjustable with multi-turn potentiometer.
From 5607 Analog Output 0 From 5607 Analog Output 1	5607 Analog Input 3 5607 Analog Input 4	Optional 5305 analog outputs needs to be installed in the 5607.
DIN0 Switch DIN1 Switch DIN2 Switch DIN3 Switch	5607 Digital Input 0 5607 Digital Input 1 5607 Digital Input 2 5607 Digital Input 3	Sourcing voltage from the Power Input. 5607 needs to be configured for 12-24V digital inputs.
Pulse Output (P5)	5210 Counter Input	0-12V output. 10-150 Hz. Single turn potentiometer adjustable. Wired externally to the 5210 counter input.

Installation

The SCADAPack Model 5690 simulator module is installed on the SCADAPack 334 controller by inserting the 5690 connector pins into the 5607 I/O board terminal blocks P3, P4 and P5. To install the 5690 Simulator Module on the SCADAPack 334 controller:

1. Remove power from the SCADAPack 334 controller.
2. Align the 5690 module such that the left connector pin is inserted into terminal 1 of terminal block P3 on the SCADAPack controller.
3. Check that all connector pins are aligned with the terminals on the 5607 I/O module terminal blocks P3, P4 and P5.
4. Tighten the 23 screws on the terminal blocks.



Power Connection

The SCADAPack 334 controller requires 11-30VDC connected to the 5210 controller board and to the 5607 I/O board.

The power for the 5607 I/O board is applied to the PWR IN terminal on the 5690 simulator board. The 5690 simulator board supplies the 5607 I/O board via the connection made to P3 terminals 1 and 2.

Using the 5690 I/O Simulator

Once the 5690 simulator module has been connected and powered the simulator I/O is ready for use with an application program. Each type of I/O is described in the following sections.

Analog Inputs Using Adjustable Potentiometers

There is one potentiometer corresponding to each of the three SCADAPack analog inputs, address 30001, 30002 and 30003. The potentiometers are the multiple turn type. This provides very fine control over the analog input value.

To adjust the input:

Turn the potentiometer adjustment screw clockwise to increase the input value.

Turn the potentiometer adjustment screw counter-clockwise to decrease the input value.

The input value will stop changing when the potentiometer reaches its limits. The screw will continue to turn.

Analog Inputs Using 5607 Analog Outputs

The 5690 simulator module will route the optional analog output signals from the 5607 I/O module to analog inputs 3 and 4. These correspond to addresses 30003 and 30004.

Use the application program to set the analog output values.

Digital Inputs

There is one toggle switch corresponding to each of the first four 5607 I/O module digital inputs, address 10001, 10002, 10003 and 10004.

To control the input:

Toggle the input switch to the ON position to turn the digital input on.

Toggle the input switch to the OFF position to turn the digital input off.

Counter Inputs

The 5690 simulator provides an adjustable pulse output for connection to the 5210 controller board counter input. Wire the Pulse Out connector (P5) to a counter input on the 5210 controller board. Adjust the Pulse Freq. Adjust potentiometer to vary the frequency between 10 and 150Hz.