SERIES 100 FLOAT OPERATED PUMP CONTROLLERS INSTRUCTION MANUAL

Sigma Controls, Inc.
PROCESS CONTROLS AND INSTRUMENTATION
217 S. Fifth Street, Perkasie, PA 18944
PH: 215-257-3412 FAX: 215-257-3416

VISIT OUR WEBSITE SIGMACONTROLS.COM

TABLE OF CONTENTS

Introduction

The Sigma Controls 100 series pump controllers are micro controller based devices for the operation of 2 or 3 loads (pumps, compressors, etc.), with user programmable alternation, and/or sequencing with process alarm(s).

Designed for DIN rail mounting, these instruments provide either primary or backup control in industrial or water and wastewater applications.

Two side mounted push buttons allow for user programming and the front panel 16 LED indicators provide both programming prompts and process status in normal operation.

Specifications

ANALOG INPUT: 1 ea. (1 additional with Option Board)
Analog, 4/20MA isolated with common negative, +_0.1% accuracy.

DIGITAL INPUTS: (8 ea.)
Digital Form 'C' dry contact

ANALOG OUTPUT: 1 ea. (1 Additional with Option Board)
Analog, with common negative 4/20MA

INDICATOR LIGHTS: (16 ea. 8 red and 8 green)
16 LED status lights (8 red and 8 green) provided for status and alarm notification.

RELAY OUTPUTS: (up to 4 ea.)
SPDT, Form 'C'; 5A Relay

INPUT IMPEDANCE:
Voltage 100K, Current 100 OHMS

POWER:
24 VDC std.

ENVIRONMENTAL:
Operating, 0-65º C
Storage, -40º -80º C
R.H., 0-90% non condensing

TERMINAL STRIP:
2 ea. 12-position, compression style, removable for ease of wiring 28 – 16 AWG

CONNECTIONS:
Removable screw terminal blocks 28 – 16 AWG wire

CONTROL OUTPUTS:
4 relay outputs, SPDT Form ‘C’ relays 6 AMP

1 Year Warranty

MODBUS®

Network allows multiple units to be connected together for distributed applications, Remote monitoring SCADA applications (optional).

FEATURES

Microprocessor Based
16 LED Indicators
2 User Push Buttons
4/20MA Input (Optional)
1 Analog Output (Optional)
8 Digital Inputs, standard
4 Form ‘C’ Relay Outputs
Fully User Programmable
1 ea. RS485 Ports, MODBUS® (Option)

PROGRAMMING

Two user push buttons and front viewable LED indicators.

Programming the PC101S/102S is limited to:

A) Allowing loads to alternate at the end of each cycle or:
B) Selecting a fixed cycle where the lead/lag/second lag order is fixed.

See next page for programming instructions.

PC101S/PC102S PROGRAMMING INSTRUCTIONS

PROGRAM MODE

HOLD “MODE AND SELECT SWITCHES” [ALL LEDS WILL LIGHT]
AFTER 5 SECONDS THE LED TEST WILL GO OFF AND THE PROGRAM LED WILL BE ON.

ALT MODE

THE LEAD LED WILL BE LIT AND “P1” OR “P2” LEDS WILL INDICATE WHAT MODE IS ACTIVE.

1. **ALTERNATION ON** [P1 AND P2 LEDS WILL TOGGLE]
2. **P1 IS LE**AD [P1 LED WILL LIGHT]
3. **P2 IS LEAD** [P2 LED WILL LIGHT]

PRESS “SELECT” TO SCROLL THROUGH THE ALTERNATION SETTINGS.

TO EXIT PROGRAM MODE PRESS THE “MODE SWITCH”

MAKE A RECORD OF YOUR SETTINGS HERE:_____

PC103S PROGRAMMING INSTRUCTIONS

PROGRAM MODE

HOLD “MODE AND SELECT SWITCHES” [ALL LED WILL LIGHT]
AFTER 5 SECONDS THE LED TEST WILL GO OFF AND PROGRAM LED WILL BE ON.

ALT MODE

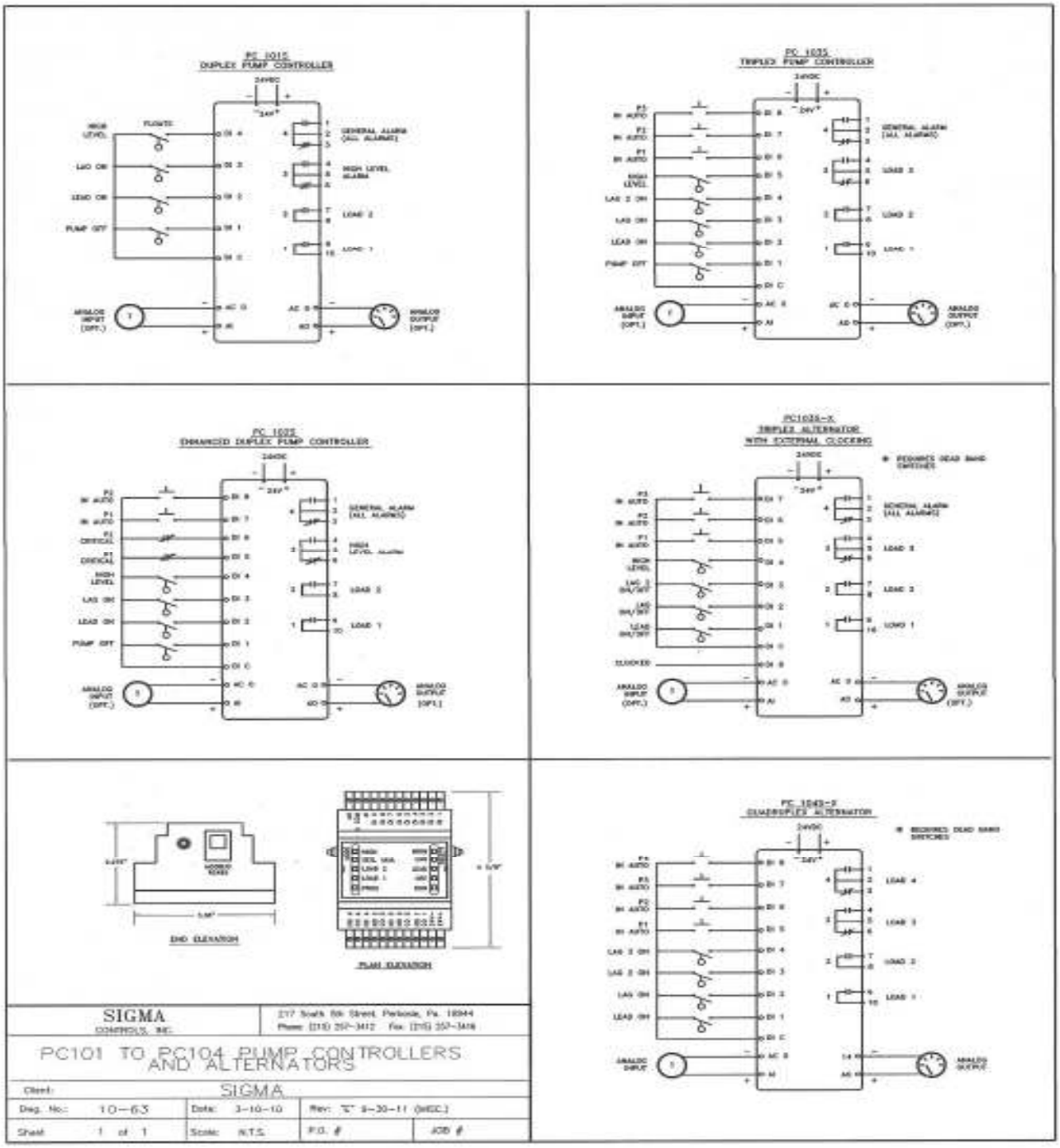
THE LEAD LED WILL BE LIT AND “P1”, “P2” OR “P3” LEDS WILL INDICATE WHAT MODE IS ACTIVE.

1. **ALTERNATION ON** [P1, P2, AND P3 LEDS WILL TOGGLE]
2. **P1 IS LEAD** [P1 LED WILL LIGHT]
3. **P2 IS LEAD** [P2 LED WILL LIGHT]
4. **P3 IS LEAD** [P3 LED WILL LIGHT]

PRESS “SELECT” TO SCROLL THROUGH THE ALTERNATION SETTINGS.

TO EXIT PROGRAM MODE PRESS THE “MODE SWITCH”

MAKE A RECORD OF YOUR SETTINGS HERE: _____


PC 1015
DUPLEX PUMP CONTROLLER
PC 1035
TRIPLEX PUMP CONTROLLER
PC 1025
ENHANCED DUPLEX PUMP CONTROLLER
PC1025-X
TRIPLEX ALTERNATOR
WITH EXTERNAL CLOCKING
END ELEVATION
PLAN ELEVATION
PC 1045-X
QUAD/TRIPLEX ALTERNATOR
SIGMA
CONTROLS, INC.
217 South 5th Street, Perkasie, Pa. 18944
Phone: (215) 257-3612 Fax: (215) 257-3616
PC101 TO PC104 PUMP CONTROLLERS
AND ALTERNATORS
Client: SIGMA
Dwg. No.: 10-63
Date: 3-10-10
Rev: "C" 6-30-11 (MEC)
Sheet: 1 of 1
Scale: N.T.S.
P.O. #
JOB #

Sigma Controls, Inc.
PROCESS CONTROLS AND INSTRUMENTATION

WARRANTY

All Sigma Controls, Inc. products are warranted to be free from defective materials and workmanship for one (1) year from date of shipment. Sigma reserves the right to repair or replace at its option any product found to be defective. In no event shall Sigma Controls, Inc. be liable for any consequential, incidental, or special damages and the limit of its liability shall not exceed the purchase price of the supplied equipment.

*******IMPORTANT*******

SENSORS AND CABLE THAT HAVE BEEN USED IN WASTE WATER OR HAZARDOUS LIQUIDS MUST BE THOROUGHLY CLEANED BEFORE RETURNING. UNITS RETURNED UNCLEANED WILL BE CONSIDERED UNREPAIRABLE AND RETURNED TO SENDER OR DISCARDED. NOTE: DO NOT SUBMERGE UNITS FOR CLEANING WITH CABLE CUT OR REMOVED. THIS WILL ALLOW CLEANING FLUID TO ENTER HOUSING, DAMAGING ELECTRONICS AND VOIDING THE WARRANTY.

RETURN FOR REPAIR POLICY (WARRANTY/NON-WARRANTY REPAIR)

Return status can be determined upon factory inspection of returned equipment.

A completed Return Authorization form must accompany all items returned for repair.

Repairs will be evaluated as quickly as possible. Cost for non-warranty repairs will be provided before repairs are initiated and repairs will be completed only after approval by customer.

217 S. 5TH Street, Perkasie, PA 18944 PH: 215-257-3412 FAX: 215-257-3416

Sigma Controls, Inc.
PROCESS CONTROLS AND INSTRUMENTATION
217 S. Fifth Street, Perkasie, PA 18944
PH: 215-257-3412 FAX: 215-257-3416

RETURN AUTHORIZATION

*******IMPORTANT RETURN/REPAIR INFORMATION*******
SENSORS AND CABLE THAT HAVE BEEN USED IN WASTEWATER OR HAZARDOUS LIQUIDS MUST BE THOROUGHLY CLEANED BEFORE RETURNING. UNITS RETURNED UNCLEAN WILL BE CONSIDERED UNREPAIRABLE AND RETURNED TO THE SENDER OR DISCARDED.
NOTE: DO NOT SUBMERGE UNITS FOR CLEANING WITH CABLE CUT OR REMOVED. THIS WILL ALLOW CLEANING FLUID TO ENTER HOUSING, DAMAGING ELECTRONICS AND VOIDING THE WARRANTY. (SEE WARRANTY FOR FURTHER DETAILS.)

User Company Name & Address:	Name & Phone # to contact for information:
Reason for Return:	Possible Cause of Problem:

If Sensor and Cable, specify material in which equipment was installed. (This will insure proper handling in case liquid has entered sensor body.)

Urgency of Repair:
Calibration desired for sensor or meter:
PO # for Non-Warranty Repairs:
M.S.D.S. if applicable:

NOTE: PLEASE PACK IN ANTISTATIC PROTECTION SUITABLE FOR SENSITIVE ELECTRONIC DEVICES.