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Instruction Manual

Model 8020-59PLC

Programmable Logic Controller Interface

(Doc Rev B, 05/10/22)

Warranty Statement

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1. Introduction

The 8020-59PLC provides the capability to control the 8020-59 VW to Analog Converter and/or the 8032 Multiplexer via relay closures (Ground Referenced) as provided by most Programmable Logic Controllers (PLC).

Relay contacts “bounce” when opened or closed, resulting in multiple low to high (0V → 5V) or high to low (5V → 0V) CMOS logic transitions instead of one clean transition. Relay closures input into the 8020-59PLC from the PLC are “de-bounced” and translated into the required 0/5V CMOS logic level signals for the ENABLE and CLOCK control signals. Conversely, the READY 0/5V CMOS logic level control signal output from the 8020-59 is translated into a relay closure (optical relay) for connection back to the PLC.

The 8020-59PLC also provides a convenient wiring panel to connect the 8020-59 and the 8032 to the PLC with L.E.D. status indicators to display the state of the ENABLE, CLOCK and READY control signals.

2. Connector Pinout and Signal Description:

The J1 connector (8020-59/8032 side) pinout and signals descriptions are outlined in Table 1.

POSITION	LABEL	DESCRIPTION
1	+12V	+12V Power: Connect to the 8020-59 (pin 6)
2	GND	GND: Connect to the 8020-59 (pin 7)
3	EN	ENABLE: Connect to the 8020-59 (pin 13)
4	CLK	CLOCK: Connect to the 8020-59 (pin 14)
5	RDY	READY(Valid): Connect to the 8020-59 (pin 12)
6	GND	GND: Connect to the 8020-59 (pin 1)
7	GND	GND: Spare GND connection
8	GND	GND: Spare GND connection
9	+12V	+12V Power: Connect to the 8032 I/O connector (J5 pin 6)
10	GND	GND: Connect to the 8032 I/O connector (J5 pin 7)
11	EN	ENABLE: Connect to the 8032 I/O connector (J5 pin 8)
12	CLK	CLOCK: Connect to the 8032 I/O connector (J5 pin 9)

Table 1 - J1 Pinout and Signals Description

The J2 connector (PLC side) pinout and signals descriptions are outlined in Table 2.

POSITION	LABEL	DESCRIPTION
1	12V	+12V Power: Connect to the PLC +12V power supply
2	GND	GND: Connect to the PLC power supply ground
3	ENABLE	ENABLE: SPST Relay #1 pole 1 (normally open)
4	GND	GND: SPST Relay #1 pole 2 (normally open)
5	CLOCK	CLOCK: SPST Relay #2 pole 1 (normally open)
6	GND	GND: SPST Relay #2 pole 2 (normally open)
7	READY 1	READY pole 1: SPST Relay closure to PLC – normally open
8	READY 2	READY pole 2: SPST Relay closure to PLC – normally open
9	GND	GND: Connect to PLC power supply ground

Table 2 - J2 Pinout and Signals Description

APPENDIX A. SPECIFICATIONS:

PHYSICAL	
Dimensions:	111 x 109 x 37 mm (with cover)
Weight:	6 oz.
Operating Temperature:	-20 to +80 °C
POWER REQUIREMENTS (@+25° C)	
+12V Input Voltage Range:	9 to 15 VDC (12V nominal)
Operating Current:	30 mA @ +12 V
Sleep Current:	20 uA @ +12 V
VALID RELAY CLOSURE OUTPUT	
Type:	PhotoMos Solid-State Relay
On Resistance:	50Ω (max.)
Load Current:	100 mA (continuous) 300 mA (peak)
Load Voltage:	400 V (max.)
Isolation Voltage:	1500 VAC (max.)

Table 3 - Specifications