

**Service Information System**

Shutdown SIS

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◀ Product: MARINE ENGINE
Model: C280-16 MARINE ENGINE TDX
Configuration: C280-16 MARINE TDX00001-UP

Systems Operation

Marine Monitoring System II

Media Number -REN2490-06

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i01436224

Programmable Logic Controller

SMCS - 7490

Power UP Diagnostics

When you power up, a self-check is performed. The self-check is of internal circuits, of memory, and of basic functions. During the self-check, the LED indicators are off.

Self-Diagnostics

The electronic system has self-diagnostic capabilities. When a problem is detected, a fault indicator is illuminated on the front of the module and on the PLC status screen .

Module Fault Indicators

A fault should be immediately serviced. A fault indicator is illuminated when a problem exists. When the PLC has an active fault, find the appropriate procedure in the troubleshooting section.

Operating Information that is Stored in the Programmable Logic Controller

The SLC 5/04 - 5/05 uses a battery in order to provide backup power to the C-MOS RAM.

Chassis or Rack for the Programmable Logic Controller

The chassis of the PLC contains the following components:

- Power Supply
- CPU Module

- Input Modules
- Output Modules
- User Defined Modules

The system uses the Allen-Bradley SLC 500 series of PLC.

Central Processing Unit

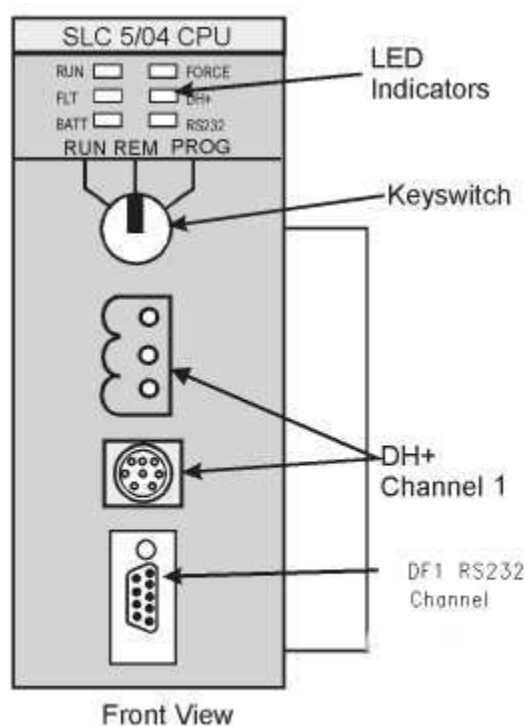


Illustration 1

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The SLC 5/04 - 5/05 processor includes a three-position keyswitch on the front panel. The key switches the system from the following three modes of operation: RUN, PROGRAM and REMOTE

The key can be removed in each of the three positions. The mode changes when the position of the key is switched from the RUN position. Do not substitute the keyswitch for a master control relay. Do not substitute the keyswitch for an emergency stop switch.

RUN Position

The RUN position places the processor in the run mode. The processor conducts the following

functions:

- The processor scans the ladder program.
- The processor executes the ladder program.
- The processor monitors input devices.
- The processor energizes the output devices.
- The processor acts on the enabled forces of the I/O MODULE.

You can only change the processor's mode with the keyswitch.

"PROG" Position

The Program position places the processor in the program mode. The processor does not scan the program and the processor does not execute the program. The controller's outputs are de-energized.

Remote Position

The remote position places the processor in the remote mode.

You can only change the processor's mode with the keyswitch. Revising of the program can be performed when you are on-line.

When the keyswitch is in the remote position, a qualified technician can use the programmer interface device in order to change the processor's mode.

Processor's Fault Indicators

A fault should be immediately serviced. A fault indicator is illuminated when a problem exists. When the PLC has an active fault, find the appropriate procedure in the troubleshooting section.

The Processor's Indicators

Six LED indicators are on the front of the CPU module. The indicators show the operating status of your processor. The indicators have the labels that are in the following list: "RUN", "FLT", "BATT", "FORCE", "DH+ or Ethernet" and "RS232"

Digital Input Module

When you apply a voltage to the channel, the relay is energized. An energized input will close all of contacts that are normally open. An energized input will open all of the contacts that are normally closed. Digital modules are used to determine whether a circuit is ON/OFF. A number of modules are available. The most common module has sixteen channels.

Applications

A discrete input module is typically used in every system of the PLC. The module is typically used in order to determine if a set of contacts is opened or closed. For example monitor the position of a pressure switch. Wire the supply voltage to one side of the contact and wire the input channel to the other side.

Digital Output Modules

Output modules are used in order to provide a control of voltage under various conditions.

The control panel uses the 24 VDC module in the MMS. The digital output modules use a transistor in order to control the channel's voltage instead of a relay. Transistors have a longer life than a relay when the transistor is applied properly.

Applications

A digital output module is typically used in every system of the PLC. A module provides power for energizing the lamps and relays. The modules can be used in any application that requires voltage for control.