

Peripheral Device Controller

Description

The PDC Board was designed to activate up to 128 low power devices, such as: relays, solenoids, LED's, etc. These devices could be used to control fixture clamps, stampers, strippers, cutters, and many other manufacturing equipment. Up to eight PDC Boards may be link together for a total of 1024 device control signals.

The devices may be activated either under sequence control or during a test scan. The allows the programmer to decide the exact condition for activation of the controlled devices. For example, a fixture lock may only release after the part has tested "good".

Each PDC circuit is capable of 0.5 amps (2 amps total per group of 8 bits) and 24v maximum. For wiring convenience, the I/O points can also be interfaced with 64 conductor ribbon cable assemblies. Power for the device being controlled can be supplied by the Analyzer (up to 5v) or from an external power supply connected to the Device Power terminal on the PDC Board Terminal Strip.

Equipment Required

1. 7500020, PDC Board
2. 7100014, PDC Cable
3. EPROM V4.13e or later

Analyzer / PDC Interface

The PDC Board is interfaced with the analyzer through the control port. The pin configuration is given in the table below.

Control Port (DB25)	PDC Board (Terminal Strip)
n/a	Pin 1, Device Power *
Pin 13	Pin 2, +5
Pin 15	Pin 3, Common Ground
Pin 7	Pin 4, Clock
Pin 8	Pin 5, Data
Pin 9	Pin 6, Strobe

- ◆ Place a jumper between pins 1 and 2 of the PDC Board if the devices to be controlled are 5v and a maximum of 1 amp.

Multiple Board Connection

Additional boards are daisy chained together by connecting all six positions of **P2** from the first board to all six positions of **P1** to the next board. This configuration is repeated for each additional board, for a maximum of eight boards.

DIP Switches

There are two DIP switches located on the PDC board. **Sw1** is an 8 position switch used to select the board address and will emulate 0-7. More than one board may have the same address however each board may only have one address. In other words, only have one switch **ON**, the rest should be **OFF**.

Sw2 is a 3 position switch and is used for terminating the last board of the daisy chain series. The last board will have all three switches **ON**, all other boards must have these three switches **OFF**.

Enabling Your Analyzer

Old 1024

For old style 1024's the PDC setting must be enabled in order to activate the PDC Board during a test scan and to automatically clear all PDC circuits under sequence control if the program is aborted. This setting is manually toggled from the CONFIGURATION MENU on the analyzer.

XL Series Analyzers

For XL series analyzers the serial protocol must be set to **XBIT**. This is done manually in the SETUP MENU under PORTS, CONTROL.

Activating Devices During Test Scan

In order to activate the PDC Board during a test scan, the **LAMP** sequence item must be invoked in the sequence table. The **LAMPOFF** sequence item will disable the actuation.

If an error is found during the test scan, both corresponding outputs of the PDC will be actuated. Determining which Test Points are associated with lamps or other devices on the PDC Board is done one of two ways.

1. One way is to have a single location on the PDC associated with a single block. An error on one of the pins within the block will cause the PDC location associated with the block to be turned on. If the circuit that has an error has endpoints in two different blocks, then two PDC locations will be turned on. In either case the lamp will only show the operator which block the error is in, the operator will have to know or find the exact error.
2. The other way is to have each I/O point have its own PDC location. The circuit with an error will have PDC locations turned on for each of the associated endpoints. By seeing which lamps are lit, the operator will know exactly where the error has occurred. If there is an error in circuit 22 for example, and circuit 22 has two endpoints 0-056 and 0-111, lamp locations 56 and 111 will be turned on on the first PDC Board.

Setup for each of the above cases will obviously be different.

For case one: Ensure that under PASS setup the LAMP PIN LOCATION is turned on. Then in the block features table, just enter the desired lamp location for each of the blocks.

For case two: Ensure that under PASS setup that the LAMP PIN LOCATION is turned off. No entry will be required in the block features table.

Activating Devices Under Sequence Control

PDC circuits can be individually turned on or off under sequence control with the sequence items XBSET and XBCLR respectively. All devices can also be turned off with the XCLEAR sequence item.

XBSET [turn on absolute PDC point]

XBCLR [turn off absolute PDC point]

XCLEAR [turns off all PDC locations]