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Find the *Colby Instruments CPDL* at our website: *Click HERE*

Product Description

CPDL-Series

Model CPDL

This product line does not use the trombone delay line unit, but is made **entirely from precision phase matched semirigid coaxial cables and microwave coaxial relays** only. For this **C**ustom **P**rogrammable **D**elay **L**ine, the customer can specify any minimum step size, but not less than 10 ps; and any delay range, but not to exceed 16 binary steps.

To compute the **Number of binary Steps,** multiply 3.332 x $\log_{10}$ x (max. delay/step size). The result needs to be rounded up to the next higher integer.

Conversely, if the step size and the number of binary steps are known, the **Maximum Delay Range** is computed as follows: min. step size x [2 exp(number of binary steps) - 1]. Please notice that the maximum delay range can be **any** number within the 16 binary steps available. Bandwidth and pricing vary depending on binary sections and total length of delay needed.

SPECIFICATIONS OF MECHANICAL DELAY LINES (cont.)

MODELS PDL-10A/PDL-1A/PDL-30A/CPDL

[1] Customer receives Actual Measured Insertion and Return Loss Data for different Delay Settings.

[2] Repeatability is 0.1 ps when moving in the *same* direction; 0.2 ps when moving in *either* direction.

[3] Repeatability is specified at constant temperature.

[4] Rated Lifetime is specified for Max. Switching Current of 100mA.
Higher currents may be switched but Rated Lifetime will be less.

The Maximum Setting Time of Trombone Unit inside the **Models PDL-10A and PDL-30A** is 1 s. For the **Model CPDL,** the maximum Settling Time is 50 ms.

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The Physical Size for all Programmable Delay Lines is 13 3/8" Long x 12 7/8" Wide x 5 1/4" High.

The Weight of the Delay Lines are as follows: PDL-10A: 14.3 lbs.; PDL-30A: 16.1 lbs.; CPDL: 8.8 lbs. and up;

The Line Voltage for all Delay Lines is: 90-110 V, or 110-122 V, or 215-245V; 50/60 Hz.

Power Requirement: PDL-10A: 80 VA; PDL-30A: 120 VA; CPDL: 30 VA and up.

The Recommended Operating Temperature Range for all Delay Lines is 10° C to 30° C.

Our **Model MT-1A** Microterminal is required for **Manual Control** of the delay for all models.

At 19" Rackmount Option is available for all of our Programmable Delay lines.

SPECIFICATIONS OF MODEL CPDL

This delay line model is custom-built by specifying the **Minimum Step Size** and the **Maximum Delay Range.** Min. Step Size is 10 ps, and the max. allowable Delay Range is limited to 16 ea. binary steps. Insertion and Return Loss will depend on the length of the delay. Only precision phase matched 0.141" diameter semirigid coaxial cables are used for this unit, combined with microwave coaxial relays. Typical accuracy is 0.1%, ± 5 ps.

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