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# Delta DVP PLC

## Application Note

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This document describes how to configure a Paradigm operator interface terminal to allow communications with a Delta DVP PLC. The communications protocol supports access to counters, timers, data registers, and relays. Please read this document carefully before attempting to configure communications with these devices.

## Introduction

The EDICT-97 configuration software has been designed to allow the user to enter a parameter mnemonic and number in a manner that should be familiar to the user of a Delta DVP PLC. The driver allows the exchange of data with the Controller.

## Accessing Data

The Delta DVP PLC communications protocol allows access to a number of parameters over a serial communications link. The driver described here supports the parameters in the table below.

Mnemonic	Parameter	Data Type	Range	Effective Range	Access
CC	Counter Coil	BIT	0~255	0~127, 232~255	Read/Write
CR	Counter Register	16-Bit INT	0~199	0~127	Read/Write
CH	Counter Hi-Speed	32-Bit INT	200~255	232~255	Read/Write
D	Data Register	16-Bit INT	0~1279	0~599, 1000~1143	Read/Write
M	Internal Relay	BIT	0~1279	0~1279	Read/Write
S	Step Transition	BIT	0~999	0~127	Read/Write
TC	Timer Coil	BIT	0~255	0~127	Read/Write
TR	Timer Register	16-Bit INT	0~255	0~127	Read/Write
X	Input Relay	BIT	0~377 Octal	0~177 Octal	Read
Y	Output Relay	BIT	0~377 Octal	0~177 Octal	Read/Write

## Knowledge of Unit Operation Is Assumed

In all cases, the simple principle of 'pass-through' is maintained: there is no attempt to validate a value in terms of the end use of the unit: both familiarity with the PLC functions and knowledge of system operation are assumed.

## Communications

Communications with the Delta DVP PLC is via an RS-232 point to point link, or via RS-485. Default serial communications format is 9600 baud rate, 7 data bits, Even parity, and 1 stop bit. The default Device Address is 0, which is the Delta DVP broadcast address. For RS-485 communications, the PLC's port must be configured for ASCII mode, with default STX prefix (“.”) and ETX suffix (“CR”, “LF”) characters. The connection details are described in the tables below.

<b>Paradigm RS232 Port</b>	<b>Delta DVP RS232 Programming Port 8-Pin Mini-DIN</b>
Pin 1 (Tx)	Pin 4 (Rx)
Pin 2 (Rx)	Pin 5 (Tx)
Pin 3 (RTS)	
Pin 4 (CTS)	
Pin 5 (Comm.)	Pin 8 (Gnd)

In addition a link must be fitted between Pin 3 (RTS) and Pin 4 (CTS) on the Paradigm unit.

<b>Paradigm RS485 Port</b>	<b>Delta DVP RS485 Port</b>
Pin 6 (TxA) & Pin 8 (RxA)	+
Pin 7 (TxB) & Pin 9 (RxB)	-
Pin 10 (Comm.)	

In addition a 1k8 resistor must be fitted between Pin 9 (RxB) and Pin 10 (Comm.) on the Paradigm unit.