
Compumotor 6000 Drive

Application Note

This document describes how to configure a Paradigm operator interface terminal to allow communications with a Compumotor 6000 Drive. The communications protocol supports access to pertinent parameters. 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 command mnemonic and number in a manner that should be familiar to the user of a Compumotor 6000 Drive. The driver allows the exchange of data with the Drive.

Accessing Data

The Compumotor 6000 Drive 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.

IMPORTANT: The Compumotor 6000 Drive must be configured for ERRLVL2 or above -- do not use ERRLVL0 or ERRLVL1. For best performance, ERRLVL2 is recommended.

Mnemonic	Parameter	Access
A	Acceleration	Read/Write
AD	Deceleration	Read/Write
D	Distance	Read/Write
DRIVE	Enable Drive	Read/Write
GO	Initiate Motion	Pulse
HALT	Terminate Program Execution	Write
HOM	Go Home	Pulse
HOMA	Home Acceleration	Read/Write
HOMAD	Home Deceleration	Read/Write
HOMVF	Home Final Velocity	Read/Write
HOMV	Home Velocity	Read/Write
JOG	Jog Mode Enable *	Read/Pulse
JOGA	Jog Acceleration	Read/Write
JOGAD	Jog Deceleration	Read/Write
JOGVH	Jog Velocity High	Read/Write
JOGVL	Jog Velocity Low	Read/Write
LH	Enable Hard Limits	Read/Write
LS	Enable Soft Limits	Read/Write
OUT	Set Output Bits	Write
PA	Path Acceleration	Read/Write
PAD	Path Deceleration	Read/Write
PV	Path Velocity	Read/Write
SCALE	Enable/Disable Scaling	Read/Write
SCLA	Acceleration Scale Factor	Read/Write
SCLD	Distance Scale Factor	Read/Write
SCLV	Velocity Scale Factor	Read/Write
STOP	Stop Motion on Axis	Pulse

Mnemonic	Parameter	Access
TANI	Transfer ANI Voltage	Read
TANV	Transfer Analog Input	Read
TAS	Transfer Axis Status *	Read
TASX	Transfer Error Status *	Read
TFB	Position of Feedback Devices	Read
TIN	Transfer Input Status *	Read
TINO	Transfer Other Input Status *	Read
TLIM	Transfer Limits *	Read
TOUT	Transfer Output Status *	Read
TPC	Axis Commanded Position	Read
TPE	Transfer Position of Encoder	Read
TPM	Transfer Position of Motor	Read
TSS	Transfer System Status *	Read
TUS	Transfer User Status *	Read
V	Velocity	Read/Write
VAR	Numeric Variable	Read/Write
VARB	Binary Variable	Read/Write
VARCLR	Variable Clear	Read/Write

Registers STOP, GO, HALT, HOM, and OUT are write only, and cannot be read directly. If these registers are read, they return a silent response of 0. Most of these registers can be monitored in one of the transfer registers (i.e. TOUT, TAS, TSS, etc.).

Transfer registers TANI, TANV, TAS, TASX, TFB, TIN, TINO, TLIM, TOUT, TPC, TPE, TPM, TSS, and TUS are read only, and cannot be written.

* For items that return bit values, marked with * in the Parameter field of the above table, the first bit of the response, for example Input 1, is always assigned to bit 0 of the value. This appears reversed from the order that one would see on an ASCII terminal, but is independent of the drive model and number of inputs, outputs, axes, or status bits.

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 Drive functions and knowledge of system operation are assumed.

Communications

Communications with the Compumotor 6000 Drive is via an RS-232 point to point link. Default serial communications format is 9600 baud, 8 data bits, No parity, and 1 stop bit. The connection details are described in the table below.

Paradigm RS232 Port	Compumotor 6000
Pin 1 (Tx)	Rx
Pin 2 (Rx)	Tx
Pin 3 (RTS)	
Pin 4 (CTS)	
Pin 5 (Comm.)	GND

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