Using UniOP with Control Techniques' Dinverter B

This technote describes the different menus contained within the Dinverter and how to set up communications with the UniOP.

Communications Setup

In order for a UniOP panel to communicate with the Dinverter, a few parameters must be set. These include:

1. Enter the Designer for Windows software and select *Change Controller Driver* from the *Project* menu. Select the driver entitled *CT Dinverter_b.*

2. Select *Controller Setup* from the *Project* menu. This will bring up a dialog box in which the user can select the slave ID number for the Dinverter. **This slave ID number must match the one that is set in Menu 0, P9 of the Dinverter**. *You must use numbers other than 0 to identify the drive. For example, a slave ID of 10 is not valid.*

3. Menu 0, B5 and Menu 0, B6 **must** be set to **1** in order for the UniOP to be able to write values to the Dinverter. Terminal C11 **must** also be connected to 0 V.

Menu 0 - Standard Parameters

Parameter	UniOP Address Reference	Data Format
p0 = Minimum Frequency	Menu 0.0	Word
p1 = Maximum Frequency	Menu 0.1	Word
p2 = Acceleration Time	Menu 0.2	Word
p3 = Deceleration Time	Menu 0.3	Word
p4 = Timed Current Limit	Menu 0.4	Word
p5 = Maximum Continuous Current	Menu 0.5	Word
p6 = Torque (Voltage) Boost	Menu 0.6	Word
p7 = Slip Compensation	Menu 0.7	Word
p8 = DC Injection Brake Current	Menu 0.8	Word
p9 = Serial Address	Menu 0.9	Word
pa = Fault Log	Menu 0.A	Word
pb = Security Code	Menu 0.B	Word
b0 = Speed or Torque Reference Selector	Menu 0.C.14	Bit
b1 = Auto or Manual Start Selector	Menu 0.C.13	Bit
b2 = Stopping Mode Selector	Menu 0.C.12	Bit

b3 = Low Speed Torque Boost Selector	Menu 0.C.11	Bit
b4 = Bipolar Select	Menu 0.C.10	Bit
b5 = Positive / Negative Logic Selector	Menu 0.C.09	Bit
b6 = Speed Reference Selector	Menu 0.C.08	Bit
b7 = Stopping Mode Selector	Menu 0.C.07	Bit
b8 = Display Mode Selector	Menu 0.C.06	Bit
b9 = Terminal or Keypad Mode Selector	Menu 0.C.05	Bit
b10 = Display Timeout Mode	Menu 0.C.04	Bit
b11 = Remote Reference Input Selector	Menu 0.C.03, Menu 0.C.02	Bit

Min. Frequency	*Max. Frequency*	*Menu 0.C.02*	*Menu 0.C.03*
4 mA	20 mA	1	0
20 mA	4 mA	0	1
0 mA	20 mA	0	0

b12 = Baud Rate Selector	N/A	N/A
b13 = Parameter Reset	N/A	N/A
b14 = Switching Freq. & Freq. Range Selector	Menu 0.D	Word

For b14, the user will have a two digit number in hexadecimal, for example AB.

The A digit will select the PWM switching frequency, while the B digit will select the Upper Limit Frequency (ULF).

A=0, PWM=2.9 kHz	B=0, ULF=120 Hz
A=1, PWM=5.9 kHz	B=1, ULF=240 Hz
A=2, PWM=8.8 kHz	B=2, ULF=480 Hz
A=3, PWM=11.7 kHz	B=3, ULF=960Hz

pc = Maximum Voltage Frequency	Menu 0.E	Word

Menu 0 - Serial Mnemonics

Parameter	**UniOP Address Reference**	**Data Format**
SP = Set Speed	Menu 0.F	Word
TP = Set Torque	Menu 0.10	Word
AC = Actual Real Speed	Menu 0.11	Word
LD = Actual Real Word	Menu 0.12	Word
CW = Control Word	Menu 0.13	Word

Menu 10 - Skip Frequencies

Parameter	UniOP Address Reference	Data Format
p10 = Skip Frequency 1	Menu 10.0	Word
p11 = Skip Frequency 2	Menu 10.1	Word
p12 = Skip Frequency 3	Menu 10.2	Word
p13 = Skip Band 1	Menu 10.3	Word
p14 = Skip Band 2	Menu 10.4	Word
p15 = Skip Band 3	Menu 10.5	Word

Menu 20 - Preset Speeds

Parameter	UniOP Address Reference	Data Format
p20 = Preset Speed 1	Menu 20.0	Word
p21 = Preset Speed 2	Menu 20.1	Word
p22 = Preset Speed 3	Menu 20.2	Word
p23 = Preset Speed 4	Menu 20.3	Word
p24 = Preset Speed 5	Menu 20.4	Word
p25 = Preset Speed 6	Menu 20.5	Word
p26 = Preset Speed 7	Menu 20.6	Word
p27 = Jog Speed	Menu 20.7	Word
b20 = Preset Speed Selector	Menu 20.8.08	Bit
b21 = Preset Ramp Selector	Menu 20.8.09	Bit
b22 = Preset Speed Reversal Selector	Menu 20.8.07	Bit
b23 = Preset Ramp Selector	Menu 20.8.06	Bit
b24 = Analog Output Selector	Menu 20.8.05	Bit
b25 = Analog Output Selector	Menu 20.8.04	Bit
b26 = Current Loop Loss Selector	Menu 20.8.03	Bit
b27 = Normal Running Ramp Selector	Menu 20.8.02	Bit
b28 = P1 Control Selector	Menu 20.9.07	Bit

Menu 30 - Preset Acceleration Times

Parameter	UniOP Address Reference	Data Format
p30 = Preset 1 Acceleration	Menu 30.0	Word
p31 = Preset 2 Acceleration	Menu 30.1	Word
p32 = Preset 3 Acceleration	Menu 30.2	Word
p33 = Preset 4 Acceleration	Menu 30.3	Word
p34 = Preset 5 Acceleration	Menu 30.4	Word

p35 = Preset 6 Acceleration	Menu 30.5	Word
p36 = Preset 7 Acceleration	Menu 30.6	Word
p37 = Jog Acceleration	Menu 30.7	Word

Menu 40 - Preset Deceleration Times

Parameter	UniOP Address Reference	Data Format
p40 = Preset 1 Deceleration	Menu 40.0	Word
p41 = Preset 2 Deceleration	Menu 40.1	Word
p42 = Preset 3 Deceleration	Menu 40.2	Word
p43 = Preset 4 Deceleration	Menu 40.3	Word
p44 = Preset 5 Deceleration	Menu 40.4	Word
p45 = Preset 6 Deceleration	Menu 40.5	Word
p46 = Preset 7 Deceleration	Menu 40.6	Word
p47 = Jog Deceleration	Menu 40.7	Word

Menu 50 - Automatic Reset

Parameter	UniOP Address Reference	Data Format
p50 = Number of Reset Attempts	Menu 50.0	Word
p51 = Reset Delay	Menu 50.1	Word
b50 = Status Relay	Menu 50.2.10	Bit
b51 = FWD / REV Key Selector	Menu 50.2.11	Bit
b52 = Catch a Spinning Motor Selector	Menu 50.2.12	Bit
b53 = Status Output Selector	Menu 50.2.13	Bit
b54 = Voltage to Frequency Ratio Selector	Menu 50.2.14	Bit
b56 = Deceleration Selector for Non-Important Trips	Menu 50.3.0	Bit

Technical assistance may be obtained :
In North America EXOR at 1 -513-874-4665
In Europe EXOR Italy at +39 045 - 8779068