

Contents

RS232 CONNECTIONS 2

COMMANDS..... 2

EXAMPLES..... 2

 EXAMPLE 1: 2

 EXAMPLE 2: 2

 EXAMPLE 3: 3

 EXAMPLE 4: 3

 EXAMPLE 5: 3

COMMAND TABLES 4

TABLE 1: DECIMAL POINT COMMANDS..... 4

TABLE 2 AND 3: ALARM COMMANDS AND COMMAND CODES 4

TABLE 4 AND 5: CALIBRATION COMMANDS AND COMMAND CODES 4

TABLE 6: DISPLAY COMMANDS 5

TABLE 7: UPDATE COMMANDS 5

TABLE 8 AND 9: FUNCTION KEY COMMANDS AND COMMAND CODES 5

TABLE 10: SHUNT COMMANDS..... 6

TABLE 11 AND 12: PEAK COMMANDS AND COMMAND CODES 6

TABLE 13 AND 14: REMOTE COMMANDS AND COMMAND CODES 6

TABLE 15 AND 16: REMOTE 2 COMMANDS AND COMMAND CODES 6

TABLE 17: TARE COMMANDS..... 7

TABLE 18 AND 19: ANALOG COMMANDS AND COMMAND CODES 7

TABLE 20 AND 21: LINEARIZATION COMMANDS AND COMMAND CODES 7

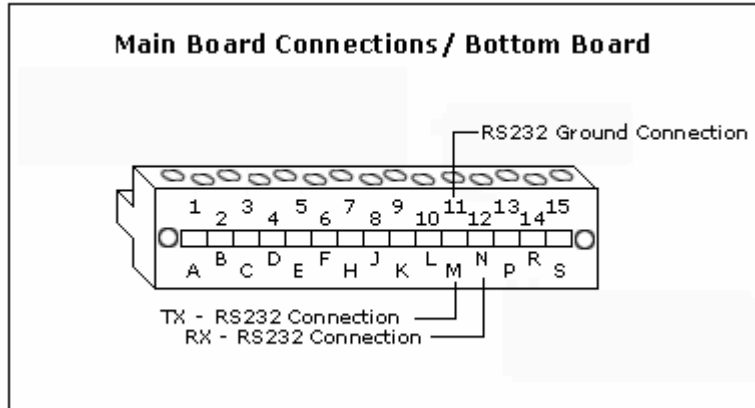
TABLE 22: 20PT LINEARIZATION COMMANDS 8

TABLE 23: INPUT SIGNAL COMMANDS 8

TABLE 24 AND 25: SECOND SCALE COMMANDS AND COMMAND CODES 8

RS232 CONNECTIONS

The picture to the right shows the connections for the RS232 communications cord. This RS232 connections (9600 Baud, no parity, 8 Data, 1 Stop Bit) is used to connect with a computer. This connection will allow the meter to be controlled by the computer for custom operations.



Commands

The commands for the D520 series of meters are listed in the following tables. Each table represents a different function of the D520 meter. Programming this meter can be done through any computer language however the commands will stay the same. By incorporating the various tables it will be possible to create commands for any number of meter functions. The structure of these commands is highlighted below.

Every command starts with a recognition character, '*' or '?'. '*' lets the computer know that you are writing information to the meter and '?' begins every command where information is being read from the meter.

Following the '*' or '?' is a four character code. These codes are displayed in the attached tables. In order to read values from the meter it is necessary to start with the ? character and follow it with the four digit code. However to write values to the meter it is necessary to start the command with the * followed by the four digit code and then followed by either the value you wish to enter or the command option for the setting you are choosing. Below are some examples of simple commands for this meter series. All of the examples refer to the attached tables.

EXAMPLES

Example 1:

`*DEC1 2'`

where: * - Writing recognition character

DEC - Command Mode for Decimal Point Selection (Table 1)

1 - The channel that the Command Function refers to

2 - The Command Option, 2 refers to the number of decimal places you are telling the meter to

display.

Thus, this command will tell the meter to display two decimal points on channel 1.

Example 2:

`*FNC1 4'`

where:

* - Writing recognition character

FNC - Command Mode for F-Keys (Table 8)

1 - The F-key you are writing to

4 - Command Code for Tare 1 (Tare 9)

Thus, this command will tell the meter to set key F1 as a Tare.

Example 3:

`*A1SP 5'

where:

- * - Writing recognition character
- A - Command Mode for Alarm menu (Table 2)
- 1 - Alarm number
- SP - Command Code for set point (Table 3)
- 5 - Value you are setting for your setpoint

Thus, this command will tell the meter to set the setpoint in alarm 1 to 5.

Example 4:

`?ANHI'

where:

- ? - Reading recognition character
- AN - Analog Command Menu (Table 18)
- HI - Command Code for the high display value that corresponds to the high analog output (Table 19)

Thus, this command reads the value that is stored as the display high for the analog output.

Example 5:

`?TAR1'

where:

- ? - Reading recognition character
- TAR - Tare Command Menu (Table 17)
- 1 - Tare number (corresponds to channel number)

Thus, this command requests the tare value at TARE1

The tables on the following pages highlight the programming commands necessary to interface software with the D520 series of meters. The tables are used in the same manor as illustrated above. Find the table that represents the menu for your specific function, decided on the necessary information from that given in the table and create your commands.

Command Tables

Menu	#	Selection Number	
		X	0- XXXXX 1-XXXX.X 2-XXX.XX 3-XX.XXX 4-X.XXXX 5-.XXXXX
	1, 2, or 3		= Channel number
DEC			= Display decimal point command

Table 1: Decimal Point Commands

Menu	#	Command Code	Command Option	
			X	= Command Option
		XX		= Command Code (Table 3)
	1, 2, 3, or 4			= Alarm number
A				= Alarm Command

Command Code	Command Function	Command Options
CH	Channel Selection	1-Channel1 2-Channel2 3-Channel3
SP	Setpoint	Desired Value
HY	Hysteresis	Desired Value
FS	Fail Safe	0-No 1-Yes
TY	Alarm Type	0-High 1-Low
RL	Relay number	1-Relay1 2-Relay2 3-Relay3 4-Relay4
LT	Latched Alarm	0-No 1-Yes
FL	Flash	0-No 1-Yes

Table 2 and 3: Alarm Commands and Command Codes

Menu	#	Command Code	Command Value	
			X	= Command Value
		XX		= Command Code (Table 5)
	1, 2, or 3			= Channel number
U				=User Calibration Command

Command Code	Command Function	Command Value
IL	Low Signal Input	Default 0.0
IH	High Signal Input	Default: Rated Output (mV)
DL	Low Display Value	Default: 0.0
DH	High Display Value	Default: Max Capacity

Table 4 and 5: Calibration Commands and Command Codes

Menu	#	
DISP	1, 2, or 3	= Channel number
		= Display channel command

Table 6: Display Commands

Menu	#	
UPDT	1, 2, 3, or 4	= 1-1/Sec, 2-3/Sec, 3-10/Sec, 4-ASAP
		= Display Update Command

Table 7: Update Commands

Menu	#	Command Code	
FNC		XX	= Command Code (Table 9)
	1, 2, 3, or 4		=F-key number
			=F1-F4 Key Setup Command

Command Code	Command Function
0	ALARM 1
1	ALARM 2
2	ALARM 3
3	ALARM 4
4	TARE 1
5	TARE 2
6	TARE 3
7	CHAN 1
8	CHAN 2
9	CHAN 3
10	ALARM RESET
11	SCALE 2
12	NET
13	SHUNT
14	PEAK 1
15	PEAK 2

Table 8 and 9: Function Key Commands and Command Codes

Menu	#	Command Code (S)	Command Option	
FN	1, 2, or 3	S	0 or 1	=0-display 20 updates w/ shunt relay on 1- complete shunt CAL function
				= Shunt Command
				=Channel number
				= Shunt Function

Table 10: Shunt Commands

Menu	#	Command Code	Command Option	
FP	1 or 2	X	X	=0-display 20 updates w/ shunt relay on complete shunt CAL function 1-
			X	= Command Code (Table 12)
				=Peak number
				= Peak Function

Command Code	Command Function	Command Options
N	On/Off Selection	0-Normal mode 1-Peak mode
H	Hi/Lo Peak Selection	0-Valley 1-Peak
C	Channel Selection	1-Channel1 2-Channel2 3-Channel3
G	Gross/Net Selection	0-Net 1-Gross

Table 11 and 12: Peak Commands and Command Codes

RMT	#	Command Code	
RMT	1, 2, 3, or 4	XX	= Command Code (Table14)
			=Remote number
			=Remote Setup Command

Command Code	Command Function
0	RESET
1	TARE
2	HOLD
3	SCALE 2
4	LOCK
5	PEAK 1
6	PEAK 2
7	ALARM
8	DEC PT
9	CHANNEL
10	GROSS
11	PEAK RESET

Table 13 and 14: Remote Commands and Command Codes

RT	#	Command Code	
RT	1, 2, 3, or 4	XX	= Command Code (Table16)
			=Remote number
			=Remote2 Setup Command

Command Code	Command Function	Command Options
D	Remote Decimal Point Function	0- XXXXX
		1-XXXX.X
		2-XXX.XX
		3-XX.XXX
		4-X.XXXX
5-XXXXX		
C	Remote Channel Function	1-Channel1
		2-Channel2
		3-Channel3
G	Remote Gross/Net Function	0-Net
		1-Gross

Table 15 and 16: Remote 2 Commands and Command Codes

Menu	#	Command Value	
TAR	1, 2, or 3	XXXX	= Tare Value
			=Channel number
			=Tare Command

Table 17: Tare Commands

Menu	Command Code	Command Options	
AN	XX	X	= Command Option
			=Command Code (Table 19)
			=Analog Setup Command

Command Code	Command Function	Command Options
SR	Analog Channel Source	1-Channel1 2-Channel2 3-Channel3 4-Display
ST	Analog Source Type	1-Gross, 2- Net, 3- Peak 1
TY	Analog Type	1-4-20mA, 2- 0-10V, 3-0- 20mA, 4-0- 5V, 5--5- +5V
LO	Display Value Corresponding to Analog Lo	Default: Minimum Value
HI	Display Value Corresponding to Analog Hi	Default: Maximum Value

Table 18 and 19: Analog Commands and Command Codes

Menu	Command Code	Command Options	
LN	XX	X	= Command Option
			=Command Code (Table 21)
			=Linerazation Setup Command

Command Code	Command Function	Command Options
CH	Channel Selection	1-Channel1 2-Channel2, 3-Channel3,
ON	On/Off Selection	0-Off, 1- On
PT	Linearization Points	1-19: Point Values

Table 20 and 21: Linteraization Commands and Command Codes

Menu	Point Number	Command Code	Point Value	
LN	XX	R or D	XX	=Value Corresponding to Point Number
				= R - Input, D-Output
LN				=Linearization Setup Command

Table 22: 20pt Linearization Commands

Menu	Channel Number	Command Code	Command Options	
CH	1 or 2	T	X	=1-0-20mA, 2-0-10V, 3-+/-30mV, 4-+/-20mV, 5-+/-2V, 6-+/-100mV
				= Input type
CH				=Input Setup Command

Table 23: Input Signal Commands

Menu	Command Code	Command Options	
S2		X	= Command Option
	XX		=Command Code (Table 25)
			=Second Scale Command

Command Code	Command Function	Command Options
ON	On/Off Selection	0- Off, 1- On
DP	Decimal Point Selection	0- XXXXX 1- XXXX.X 2- XXX.XX 3- XX.XXX 4- X.XXXX 5- .XXXXX
CH	Channel Selection	1-Channel1 2-Channel2 3-Channel3
LO	Low Signal Input	Default 0.0
HI	High Signal Input	Default: Rated Output (mV)
DL	Low Display Value	Default: 0.0
DH	High Display Value	Default: Max Capacity

Table 24 and 25: Second Scale Commands and Command Codes