Protocol for 5000-count multimeter and data logger series with BC-85X or DMSC-9 interface cable

*COM Port communication protocol:
Baud rate:9600
Parity:None parity
Data bits:8
Stop bits:1

* Program initiated procedures for COM port
1. Initiate COM port
2. Wait for 100ms
3. Set RTS=1
4. Wait for 100ms
3. Set RTS=0
4. Wait for 100ms
5. Set RTS=1

Command Format:

DLE	STX	Command	arg1	arg2	ChkSum	DLE	ETX
10h	02h	Cmd	arg1	00h	binary	10h	03h

ChkSum = XOR (Command, arg1, arg2)

Command	arg1	arg2	Description	**Bytes return**
42h	00h	00h	Dmm Reading for 5000-count multimeter and data logger series	**22**
42h	01h	00h	Get Cx Reading for 5000-count multimeter and data logger series	**22**
4eh	00h	00h	Get 5000-count data logger series memory information and data	**512**
52h	00h	00h	Get 5000-count data logger series memory data	**512**

If reading is **not** OL, "**Bytes return**" Format for "**Command 42h**" will be:

DLE	STX	Command	DataLen	bFunc0	bFunc1	bFunc2	bFunc3	"+/-"	D1	"."	D2	D3	D4	D5	D6	"E"	"+/-"	Dp	ChkSum	DLE	ETX
10h	02h	**00h**	15	Function Index				ASCII Code											binary	10h	03h

ChkSum = XOR (bFunc0, bFunc1, bFunc2, bFunc3, "+/-", D1, ".", D2, D3, D4, D5, D6, "E", "+/-", Dp)

***Explanation for "bFunc0, bFunc1, bFunc2, bFunc3" : Please refer to "Function table.PDF" file accompanied**
***Explanation for "Command 4eh and 52h" : Please refer to "Data logger series memory download.PDF" file accompanied**

Example 1: Reading = "ACV 13.77 V", "Bytes return" will be:

10h	02h	00h	0Fh	05h	00h	00h	00h	20h	31h	2Eh	33h	37h	37h	20h	20h	45h	2Bh	31h	56h	10h	03h
																E	+	1	=10^+1		
				ACV			**(13.77=**		**1**	**.**	**3**	**7**	**7**			**x 10^1)**					

Example 2: Reading = "DCV -382.3 V", "Bytes return" will be:

10h	02h	00h	0Fh	06h	00h	00h	00h	2Dh	33h	2Eh	38h	32h	33h	20h	20h	45h	2Bh	32h	53h	10h	03h
																E	+	2	=10^+2		
				DCV			**(-382.3=**	-	**3**	**.**	**8**	**2**	**3**	**4**	**5**	**x 10^2)**					

If reading is OL, "**Bytes return**" Format for "**Command 42h**" will be:

DLE	STX	Command	DataLen	bFunc0	bFunc1	bFunc2	bFunc3	"+/-"	O	L	ChkSum	DLE	ETX
10h	02h	01h	7	Function Index				ASCIICode			binary	10h	03h

ChkSum = XOR (bFunc0, bFunc1, bFunc2, bFunc3, "+/-", "O", "L")

Recommended program flow to get reading from our 5000-count multimeter or data logger models.

1. Initiate COM port
2. Wait for 100ms
3. Set RTS=1
4. Wait for 100ms
3. Set RTS=0
4. Wait for 100ms
5. Set RTS=1
6. Set (baud rate, parity, data bit, stop bit) = (9600, N, 8,1)
7. Locate 22 RXD buffers
8. Clear RXD buffers
9. Clear TXD buffers
10. Sending out 1'st command "**10h**"
11. Wait 1ms or less
12. Sending out 2'nd command "**02h**"
13. Wait 1ms or less
14. Sending out 3'rd command "**42h**"
15. Wait 1ms or less
16. Sending out 4'th command "**00h**"
17. Wait 1ms or less
18. Sending out 5'th command "**00h**"
19. Wait 1ms or less
20. Sending out 6'th command "**42h**"
21. Wait 1ms or less
22. Sending out 7'th command "**10h**"
23. Wait 1ms or less
24. Sending out 8'th command "**03h**"
25. Wait 1ms or less
26. Check & read RXD buffers
27. Decode RXD buffers according to the principle shown above
28. Repeat step 8 ~ 27 to get new reading