

Protocol for 10000-count professional dual display mobile logging DMM series

*USB communication protocol: **Conform to USB HID1.1**

Commands to get data:

Command set	4 Commands				Returned bytes	Remark
	Report ID	Command 1	Command 2	Command 3		
request Real-Time Data (Cs_RTD)	00h	00h	52h	66h	27 bytes	See Table 1, FIG 1 & Example below
request Head of Memory Data sets (Cs_HMD)	00h	00h	52h	88h	27 bytes + 9 bytes	See accompanied file - "Memory-Read-Allocation-Decoder"
request Next Memory Data set (Cs_NMD)	00h	00h	52h	89h	27 bytes + 9 bytes	
request Current Memory Data set again (Cs_CMD)	00h	00h	52h	8Ah	27 bytes + 9 bytes	

Real-time download: **Returned 27-byte data table** after sending out **4-byte** requested **Commands - 00h, 00h, 52h, 66h**

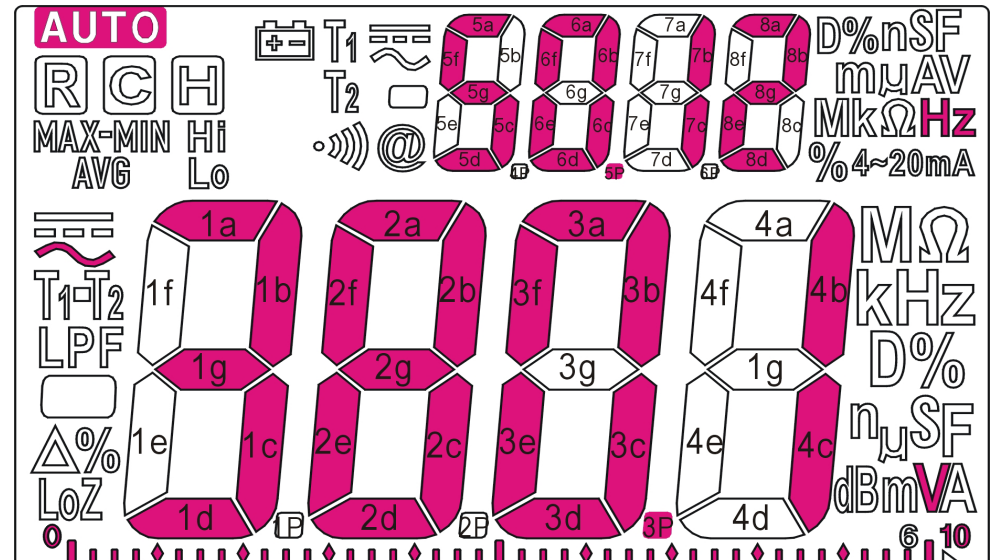
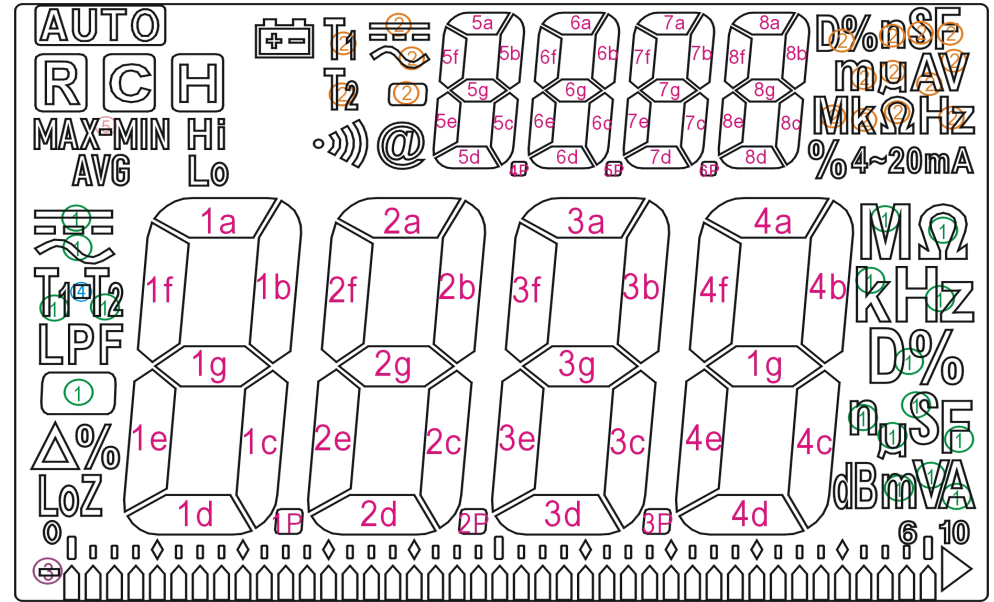
Table 1. LCD map

Byte No.	bit 7	bit 6	bit 5	bit 4	bit 3	bit 2	bit 1	bit 0
1	00h (Report ID= I)							
2	don't care							
3	Hi	Lo	①	①	MIN	⑤	AVG	MAX
4	①		%	LoZ	① T2	LPF	④	① T1
5	1b	1g	1c	1p	1a	1f	1e	1d
6	2b	2g	2c	2p	2a	2f	2e	2d
7	3b	3g	3c	3p	3a	3f	3e	3d
8	4b	4g	4c	dB	4a	4f	4e	4d
9	②	②	②	@		② T1	② T2	②
10	5b	5g	5c	4p	5a	5f	5e	5d
11	00h (Report ID= II)							
12	6b	6g	6c	5p	6a	6f	6e	6d
13	7b	7g	7c	6p	7a	7f	7e	7d
14	8b	8g	8c	%4~20mA	8a	8f	8e	8d
15	② m	② u	② A	② V	② D%	② n	② S	② F
16	① k	① M	① Ω	① Hz	② M	② k	② Ω	② Hz
17	① u	① m	① V	① A	① n	① D%	① S	① F
18	don't care							
19	00h (Report ID= III)							
20	0x52							
21	0x52							
22	0x52							
23	0x52							
24	H	C	R	AUTO	don't care			
25	don't care							
26	don't care							
27	don't care							

Example for "AC 380.1V / 50.12Hz" dual display reading, output data 27 bytes: 00h, xxh, 10h, 00h, E9h, EFh, BFh, A0h, 00h, 4Dh, 00h, BFh, A0h, CBh, 00h, 01h, 20h, xxh, 00h, 52h, 52h, 52h, 52h, 1xh, xxh, xxh, xxh

Byte No.	bit 7	bit 6	bit 5	bit 4	bit 3	bit 2	bit 1	bit 0	HEX	
1	00h (Report ID= I)								00h	
2	don't care								xxh	
3	Hi	Lo			MIN		AVG	MAX	10h	
4			%	LoZ	T2	LPF		T1	00h	
5	1b	1g	1c	1p	1a	1f	1e	1d	E9h	
6	2b	2g	2c	2p	2a	2f	2e	2d	EFh	
7	3b	3g	3c	3p	3a	3f	3e	3d	BFh	
8	4b	4g	4c	4p	4a	4f	4e	4d	A0h	
9				@		T1	T2		00h	
10	5b	5g	5c	4p	5a	5f	5e	5d	6Dh	
11	00h (Report ID= II)								00h	
12	6b	6g	6c	5p	6a	6f	6e	6d	BFh	
13	7b	7g	7c	6p	7a	7f	7e	7d	A0h	
14	8b	8g	8c	%4~20mA		8a	8f	8e	8d	CBh
15	m	u	A	V	D%	n	S	F	00h	
16	k	M	Ω	Hz	M	k	Ω	Hz	01h	
17	u	m	V	A	n	D%	S	F	20h	
18	don't care								xxh	
19	00h (Report ID= III)								00h	
20	0x52								52h	
21	0x52								52h	
22	0x52								52h	
23	0x52								52h	
24	H	C	R	AUTO	don't care				1xh	
25									xxh	

FIG 1. LCD





Proposal program design flowchart

