

Extech SW Protocol (All Versions)

Meter - RS232 Protocol

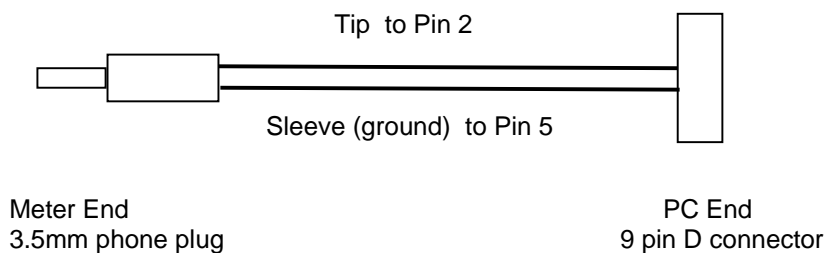
RS232 Format: Baud Rate: 9600, Parity: None, Data Bits: 8, Stop Bits: 1, Flow Control: XOn/XOff (NONE)

16 digit data stream format:

D15	D14	D13	D12	D11	D10	D9	D8	D7	D6	D5	D4	D3	D2	D1	D0
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D0	End Word		
D1 to D4	Upper Display Reading; D1=LSD, D4=MSD		
D5 to D8	Lower Display Reading; D5=LSD, D8=MSD		
D9	Decimal Point (DP) for Upper Display 0= No DP, 1= 1 DP, 2 = 2 DP, 3 = 3 DP		
D10	Decimal Point (DP) for Lower Display 0= No DP, 1= 1 DP, 2 = 2 DP, 3 = 3 DP		
D11 & D12	Annunciator for Upper Display		
	00 = No Symbol	07 = mg/L	14 = mS
	01 = °C	08 = m/s	15 = Lux
	02 = °F	09 = Knots	16 = FT-cd
	03 = %	10 = Km/hr	17 = dB
	04 = %RH	11 = Ft/min	18 = mV
	05 = %PH	12 = mile/hr	
	06 = %O2	13 = uS	
D13	Anunciator for Lower Display 0 = No Symbol 1 = C 2 = F		
D14	Reading Polarity for the Display 0 = Both Upper & Lower Display Value are "+". 1 = Upper "-", Lower "+" 2 = Upper "+", Lower "-" 3 = Both Upper & Lower Display Values Are "-"		
D15	Start Word		

RS232 Cable



-----RS232 UNIT CODE----- ASCII

00H ;NO UNIT	01H ;DEGREE C.	72H ;Blue
02H ;DEGREE F.	03H ;%	73H ;Saturation
04H ;%RH	05H ; PH	74H ;m SEC
06H ;%O2	07H ;mg/L	75H ;u SEC
08H ;m/S	09H ;knots	76H ;SEC
10H ;Km/h	11H ;ft/min	77H ;Kg/cm ² ,
12H ;mile/h	13H ;uS	78H ;mm Hg
14H ;mS	15H ;LUX	79H ;Meter H2O
16H ;Ft-cd	17H ;db	80H ;inch Hg
18H ;mV	19H ;PPM	81H ;Kg cm
20H ;mg	21H ;Tesla	82H ;Lb inch
22H ;BAR	23H ;PSI	83H ;N cm (Newton cm)
24H ;cm Hg	25H ;inch H2O	84H ;CMM ;AM4206,4214 USE
26H ;ATP	27H ;RPM	85H ;CFM
28H ;In/min	29H ;CM/min	86H ;m BAR
30H ;COUNT	31H ;HZ.	87H ;PA (Pressure)
32H ;DEG (DWEEL USE)	33H ;KHZ	88H ;K PA
34H ;V (dcv)	35H ;uA (dc)	89H ;um Hg
36H ;A (dc)	37H ;mA.(dc)	90H ;TORR
38H ;OHM	39H ;K OHM.	91H ;H PA
40H ;M OHM.	41H ;mH	92H ;m/Sec ² ,
42H ;H	43H ;Nf	93H ;mm /Sec
44H ;uF	45H ;Hfe	94H ;mm
46H ;DIODE	47H ;WATT	95H ;cm/Sec
48H ;K WATT	49H ;ACmV	96H ;inch
50H ;ACV	51H ;ACuA	97H ;Ft/Sec ² ,
52H ;ACA	53H ;ACmA.	98H ;inch/Sec
54H ;COS 0==PF.	55H ;Kg	99H ;Luminance
56H ;Lb	57H ;g	A0H ; Meter ² ,
58H ;oz	59H ; NEWTON(G)	A1H ; Feet ² ,
60H ;M/Min	61H ;Hour	A2H ; %Salt
62H ;Minutes	63H ;VA (V*A)	A3H ;
64H ;KVA (K(V*A))	65H ;KW/Hr	A4H ;
66H ;mF(cap);	67H ;MHz	A5H ;
68H ;uH	69H ;dbm	A6H ;
70H ;Red	71H ;Green	A7H ;

RS-232 Format Ver: 02 Specifications

RS-232 Format:

Format,9600,N,8,1 (ASCII)

D15.D14.D13.D12.D11.D10.D9.D8.D7.D6.D5.D4.D3.D2.D1.D0

D15: START WORD.STX (02H)

D14: RS-232 Version.

0 to 3:ver:01, 4:ver:02.

D13: Display code,1 TO 9. (only 1-4 being used)

1: Top display

2: Bottom display

3. Top right display

4. Bottom left display

0: it only can happen at D14 = 4 (version 02) with time function.

D12,D11: display unit (refer unit code table)

D10: 0 is "+". 1 is "-"

D9: Decimal point.

Example: 30.00, D9=2

D8,D7,D6,D5,D4,D3,D2,D1:

Display Data. (D8:MSB,D1:LSB).

Example: LCD displays 1234, D8 to D1 will be 0, 0, 0, 0, 1, 2, 3, 4

Example: LCD displays 12345,D8 to D1 will be 0, 0, 0, 1, 2, 3, 4, 5

Example: LCD displays "€" (over range), D8 to D1 will be 0, 0, 0, 0, ↑, ↑, ↑, ↑

Example: LCD displays "_____" (under range), D8 to D1

will be "0, 0, 0, 0, ↓, ↓, ↓, ↓"

D0: END WORD. (RETURN).(0DH)

It only happens at Version 02 (D14=4). If D13 data is "0", then it means the data from D12 to D0 as per the following format.

d12, d11: year 00 to 99

d10,d9: month 01 to 12

d8,d7: date 01 to 28 or29or30or31

d6,d5: hour 01 to 23

d4,d3: minute 01 to 59

d2,d1: second 01 to 59

d0: END WORD. (RETURN). (0DH)

If the meter is only one display and without time function, the complete data output will be from D15 to D0; if two displays, but without time function, the complete data output will be from D15 to D0 and one more again. If two displays and with time function, then the complete data will be from D15 to D0 three times. One is top display, another is bottom display, and the other time data.