Specification of GC10 Data I/O Interface

1. Data interface

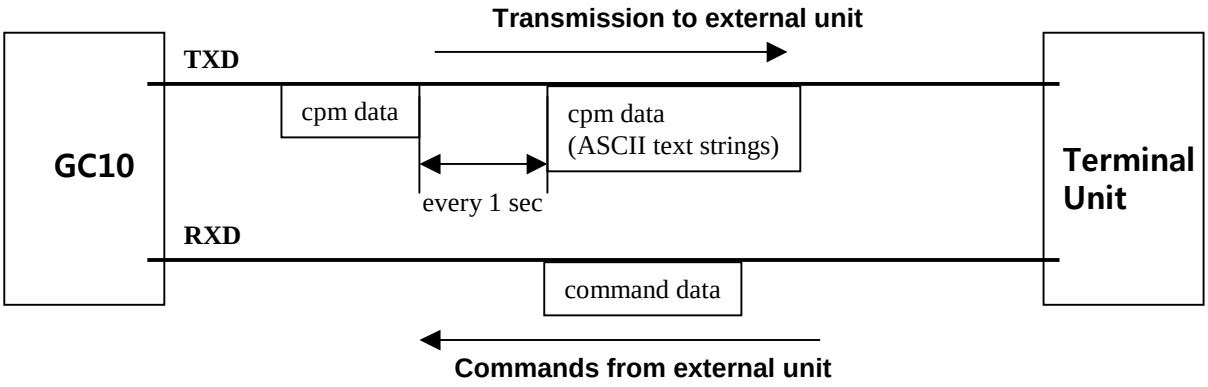
Port symbol on the schematics: SV1

Pin assign

Pin number	Signal name	Description
1. Power	VCC	+5V
2. Pulse output	PULSE	Pulse signal for geigerbot cable
3. Output	TXD	UART Transmission Line
4. Input	RXD	UART Receiving Line
5. GND	GND	GND

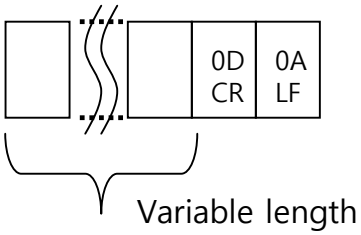
UART Specification

Specification	Description
Baud rate	9600bps
Data bit	8
Parity check	None
Stop bit	1
Signal Level	CMOS 5V



2. Data format

2.1 CPM Data from GC10 to External terminal



CPM value
<ASCII characters>

Example. 20 CPM

‘2’	‘0’	CR	LF

Raw Data: 0x32, 0x30, 0x0D, 0x0A

2.2 Command data from terminal to GC10

Command		Description
stop		Stop cpm transmission
go		Restart cpm transmission
show		Display all parameters
set	ttc=<decimal>	Set total count register value
	gsm=<decimal>	Set conversion rate(default = 150) uSv/h value = CPM / gsm
	snd=<on or off>	Sound on / off
	atc=<decimal>	Set alarm threshold Alarm sound rings when CPM exceed this value.
	hvg=<decimal>	GM tube voltage generation rate. GM tube voltage[V] = 5.7 x hvg
save		Save all internal paramters(gsm, snd, atc, hvg) on eeprom.

Note1: GC10 only accepts lower case characters on command.
Note2: hvg value grater than 140 (=800V) is unverified voltage range.

examples

CR(RETURN) = 0x0D
LF(LINE FEED) = 0x0A
SP(SPACE) = 0x20

's'	't'	'o'	'p'	CR	LF

Stop CPM sending

Raw Data(Hex) : 73 74 6F 70 0D 0A

'g'	'o'	CR	LF

Restart CPM sending

Raw Data(Hex) : 67 6F 0D 0A

's'	'h'	'o'	'w'	CR	LF

Display parameters

Raw Data(Hex) : 73 68 6F 77 0D 0A

‘s’	‘e’	‘t’	SP	‘t’	‘t’	‘c’	‘=’	‘1’	‘0’	‘0’	CR	LF

It sets specified value on total register.

Raw Data(Hex): 73 65 74 20 74 74 63 3D 31 30 30 0D 0A

‘s’	‘e’	‘t’	SP	‘s’	‘n’	‘d	‘=’	‘o’	‘f’	‘f’	CR	LF

Buzzer off

Raw Data(Hex): 73 65 74 20 73 6E 64 3D 6F 66 66 0D 0A

‘s’	‘e’	‘t’	SP	‘s’	‘n’	‘d	‘=’	‘o’	‘n’	CR	LF

Buzzer on

Raw Data(Hex): 73 65 74 20 73 6E 64 3D 6F 6E 0D 0A

‘s’	‘e’	‘t’	SP	‘g’	‘s’	‘m’	‘=’	‘2’	‘0’	‘0’	CR	LF

It changes conversion rate to 200.

Raw Data(Hex): 73 65 74 20 67 73 6D 3D 32 30 30 0D 0A

‘s’	‘e’	‘t’	SP	‘h’	‘v’	‘g’	‘=’	‘8’	‘7’	CR	LF

It changes GM tube driving voltage to 500(v).

Raw Data(Hex): 73 65 74 20 68 76 67 3D 38 37 0D 0A

‘s’	‘a’	‘v’	‘e’	CR	LF

Stop CPM sending

Raw Data(Hex): 73 61 76 65 0D 0A