Serial Communications Protocol for the HIQ-111 and 112 Remote Display

I. INTRODUCTION

The 111 and 112 uses the standard communication protocol. The starting character is S followed by the address. The default address is 01. The command follows and must be terminated by a carriage return <CR>. This document applies to firmware release 111_R101 and is used in both the HI-Q111 and HI-Q112 series.

II. COMMANDS

COMMAND	DESCRIPTION	RANGE	EXAMPLE
ADDRn	Changes the address. Default is 01.	n = 0 to 6 ASCII characters.	S01ADDRTANK1<CR>
BAUDnn	Changes the baud rate. Default is 9600.	nn = 12 ⇒ 1200 baud. nn = 24 ⇒ 2400. nn = 48 ⇒ 4800. nn = 96 ⇒ 9600.	S01BAUD2400<CR>
Dnnnnnnn	Displays ASCII characters on 7 segment display w/numerical format. Leading '-' is placed above 1st character	nnnnnnnn= ASCII chars.	S01D-12.34<CR> display shows $\overline{1}$2.34 S01DABCD display shows AbCd
Tnnnnnnn	Displays ASCII characters on 7 segment display in "text" format. The led above 1st character never lites.	nnnnnnnn= ASCII chars.	S01T-12.34<CR> display shows -12.3 S01TABCD display shows AbCd
FLASHn	Flashes display	n = 0 to 1 no flashing. n = 2 to 3 slowest (1.14 S). n = 4 to 5 slow. n = 6 to 7 medium. n = 8 to 9 fastest (142 mS).	S01FLASH0<CR> S01FLASH3<CR>
INTn	Change display Intensity. There are four levels. Default is 9.	n = 0 off. n = 1 to 3 dim. n = 4 to 6 medium. n = 7 to 9 brightest.	S01INT0<CR> display off S01INT9<CR> display max
RST	Resets SLIM to user values held in EEPROM.	N/A	S01RST<CR>
RST/C	Resets SLIM to default values.	N/A	S01RST/C<CR>
WRITE	Saves configuration data to EEPROM. Data saved includes: ADDR, BAUD, FLASH and INT	N/A	S01WRITE<CR>

Serial Communications Protocol for the HIQ-111 and 112 Remote Display

III. DISPLAYED ASCII COMMAND SET

This table shows the decimal ASCII number, the character for that number and the character as displayed on the HIQ-111 and 112 remote display. Sending ASCII 8 (BS - destructive backspace) will erase the previous character sent to the 111 and 112 input buffer. Sending ASCII 27 (ESC) will clear the input buffer.

Decimal	Char.	Display	Decimal	Char.	Display	Decimal	Char.	Display
45	-	-	61	=	=	76	L	L
46	.	.	62	>	_	77	M	_
47	/	_	63	?	_	78	N	n
48	0	0	64	'	_	79	O	o
49	1	1	65	A	A	80	P	P
50	2	2	66	B	b	81	Q	_
51	3	3	67	C	c	82	R	r
52	4	4	68	D	d	83	S	S
53	5	5	69	E	E	84	T	t
54	6	6	70	F	F	85	U	U
55	7	7	71	G	g	86	V	_
56	8	8	72	H	h	87	W	_
57	9	9	73	I	i	88	X	_
58	:	_	74	J	J	89	Y	Y
59	;	_	75	K	_	90	Z	_
60	<	_						

IV. DEFAULT AND USER MODES

The HIQ-111 and 112 have two modes of operation. In DEFAULT mode, the device address is set to ‘01’, flashing is turned off, and display intensity is set to maximum. In USER mode, the address, flashing, and intensity settings revert to the state they were in the last time a WRITE command was issued. Which mode is used is determined on power up by the position of an external jumper. For the HIQ-111, having the jumper on the rear of the unit during power up will select DEFAULT mode. For the HIQ-112, DEFAULT mode is entered by powering up with jumper A6 on the front of the unit in place.

V. Serial string examples

1. Send S01D123.4<cr> Device will display 123.4 on the front.
2. Send S01ADDR02<cr> Device address is now 02.
3. Send S02WRITE<cr> save changes to eeprom
4. Send S02INT1<cr> display intensity is reduced.
5. Send S02Thelp<cr> the text HELP is displayed on the front

Please contact the factory if you have any problems.
Precision Instrument Company
15939 W. Killarney Ave.
Tucson, AZ. 85736
Phone: 520-822-2731
Fax: 520-822-5330