



Gateway Ascii Command Protocol

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## Introduction

Ascii Serial Protocol for Touch-Plate Digital Stations:

All commands use ASCII codes and are enclosed in < angle brackets >. The software receiving the commands will ignore any bytes that come before a '<' or after a '>'. A maximum of 256 characters may be between the < and >. If there are more than 256 characters between the < and > the command is ignored. All commands are transmitted at 38.4K baud with 8 data bits, no parity, and 1 stop bit.

Each control station that is connected to the Station Interface has a unique 8 bit address. This address is assigned to the station by dip-switch settings.

The Ascii commands are sent directly to and from the Gateways Serial port with the following RS232 default settings: 38400 Baud, 8 Data 1 Stop bit, Parity = None, Flow Control = None

You can also send commands via TCP/IP by using any standard Serial-to-Ethernet device server.



## Ascii Commands

The Ascii command strings will be formatted with the following color codes for visual identification in this manual, but have no role in the actual protocol or command strings you actually send/receive.

The fixed portion of the Ascii command string sent will be shown in **RED**.

- Characters must be in ALL CAPS.

The variable parameters of the Ascii command string will be shown in **BLUE**.

- All variable parameters in the actual command string will need to be hexadecimal values.

The message you receive as a response from the Time-Keeper will be shown in **BROWN**.

All Commands must be formatted as shown, All CAPS, and padded with Zero's where necessary.

## Messages Received From The Gateway

### Button Down Message

Receive the following:

<BDXXYY00>

<BDXXYY00> = Button Down, Station address **XX**, Button number **YY**

< = Start of packet (ASCIIhex value of 3C)

**BD** = Button Down message

**XX** = Station address (2 character ASCII hex value, Range is 01 to 32, 50 stations max.)

**YY** = Button (2 character ASCII hex value, Range is 01 to 08)

**00** = Hardware Number. (2 character ASCII hex value, Range is 00 to FF, Default 00)

> = End Packet (ASCII hex value of 3E)

### Button Up Message

Receive the following:

<BUXXYY00>

<BUXXYY00> = Button Up, Station address **XX**, Button number **YY**

< = Start of packet (ASCIIhex value of 3C)

**BU** = Button Up message

**XX** = Station address (2 character ASCII hex value, Range is 01 to 32, 50 stations max.)

**YY** = Button (2 character ASCII hex value, Range is 01 to 08)

**00** = Hardware Number. (2 character ASCII hex value, Range is 00 to FF, Default 00)

> = End Packet (ASCII hex value of 3E)



## Button Maintain Message

Receive the following:

<BMXXYY00>

<BMXXYY00> = Button Maintain, Station address XX, Button number YY

< = Start of packet (ASCIIhex value of 3C)

BM = Button Maintain message

XX = Station address (2 character ASCII hex value, Range is 01 to 32, 50 stations max.)

YY = Button (2 character ASCII hex value, Range is 01 to 08)

00 = Hardware Number. (2 character ASCII hex value, Range is 00 to FF, Default 00)

> = End Packet (ASCII hex value of 3E)

When the user presses and releases a button, the interface will send a button-down (BD) message, followed by a button-up (BU) message to the host. If a button is held down longer than 1 second, then the interface will send button-maintained (BM) messages, once a second, until the button is released. For example, if a button is pressed for a total of 3.4 seconds, then at T+0.0s, the BD message is sent. At T+1.0s a BM message is sent. At T+2.0s a BM message is sent. At T+3.0s a BM message is sent. Finally, at T+3.4s a BU message is sent.

## Messages Sent To The Gateway

### Indicator Set Message

Send the following:

<ISZZXXYY>

<ISZZXXYY> = Indicator Set ZZ, Station address XX, Button number YY

< = Start of packet (ASCIIhex value of 3C)

IS = Indicator Set message

ZZ = Indicator set (2 character ASCII hex value for intensity, color, and flash pattern)

(See appendix A for a complete list of Indicator Set codes.)

XX = Station address (2 character ASCII hex value, Range is 01 to 32, 50 stations max.)

YY = Button (2 character ASCII hex value, Range is 01 to 08)

> = End Packet (ASCII hex value of 3E)



## Examples:

Messages received from station interface:

<BD010200> Button 2 pressed down on station 1

<BU030800> Button 8 released on station 3

<BM040300> Button 3 on station 4 has been held down for more than 1 second (repeats every sec.)

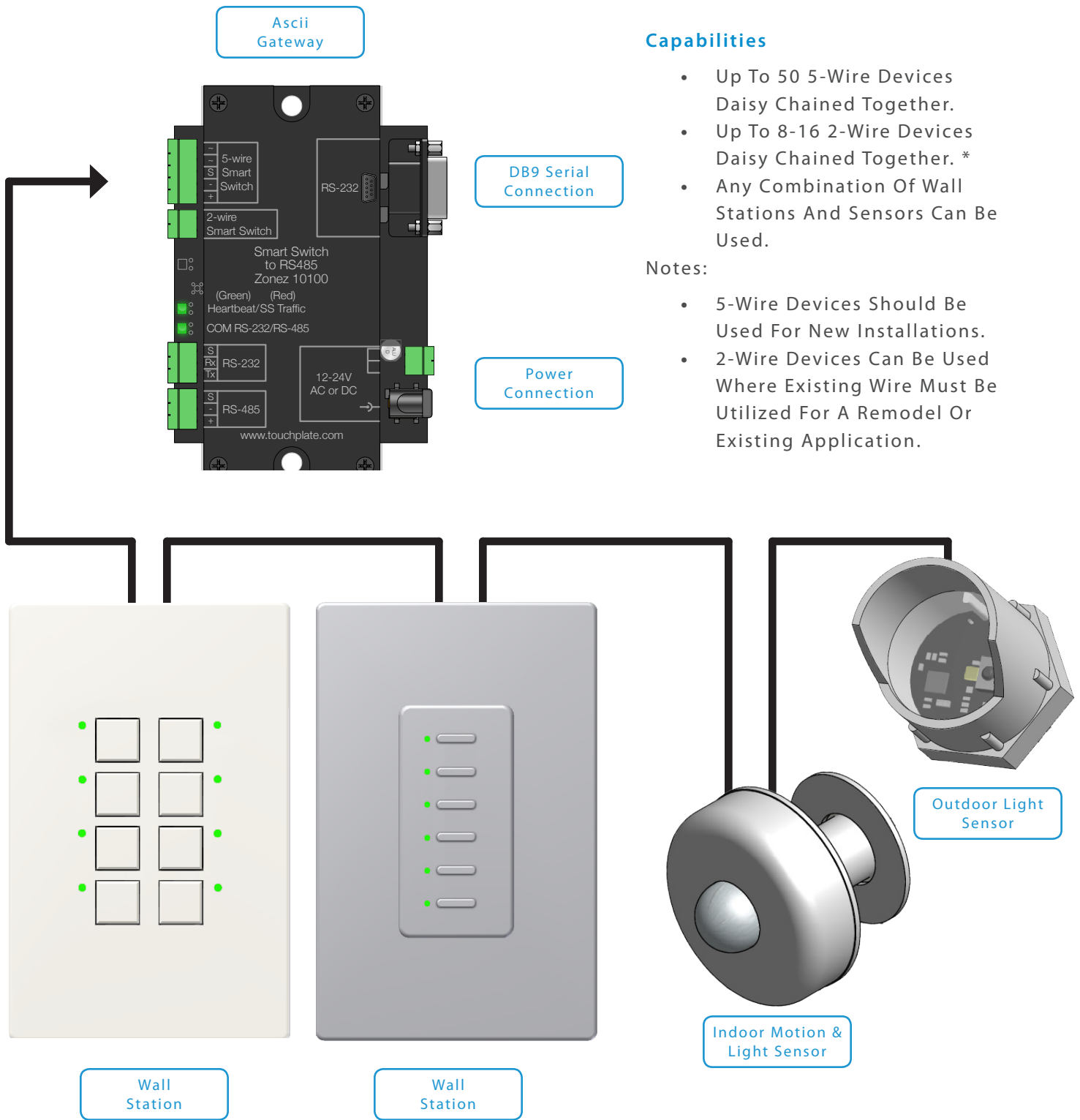
Messages sent to station interface:

<ISD70201> Set the LED for button 1 on station 2 to green at full intensity

<IS190201> Set the LED for button 1 on station 2 to slow flashing blue at lowest intensity



## Wiring Example



### Capabilities

- Up To 50 5-Wire Devices Daisy Chained Together.
- Up To 8-16 2-Wire Devices Daisy Chained Together. \*
- Any Combination Of Wall Stations And Sensors Can Be Used.

### Notes:

- 5-Wire Devices Should Be Used For New Installations.
- 2-Wire Devices Can Be Used Where Existing Wire Must Be Utilized For A Remodel Or Existing Application.

\*The Number Of 2-Wire Devices Is Dependent Upon The Existing Wiring Gauge , The Amount Of Resistance On The Wiring Run, And Noise/Interference On The Wiring Run. 16/2 Twisted Pair Is Recommended, Or Twisting Multiple Smaller Gauge Pairs Together To Be Equivilant To 16awg.



## Appendix A - Indicator Set Codes

This chart shows the values to use for the ZZ parameter in the Indicator Set Message. These values allow you to set the station LEDs to the desired intensity, color and flash pattern.

Color	Intensity	Slow Flash	Slow Flash Reverse	Fast Flash	Fast Flash Reverse	Wink	Wink Reverse	On
Red	25%	09	0A	0B	0C	0D	0E	0F
Red	50%	49	4A	4B	4C	4D	4E	4F
Red	75%	89	8A	8B	8C	8D	8E	8F
Red	100%	C9	CA	CB	CC	CD	CE	CF
Green	25%	11	12	13	14	15	16	17
Green	50%	51	52	53	54	55	56	57
Green	75%	91	92	93	94	95	96	97
Green	100%	D1	D2	D3	D4	D5	D6	D7
Blue	25%	19	1A	1B	1C	1D	1E	1F
Blue	50%	59	5A	5B	5C	5D	5E	5F
Blue	75%	99	9A	9B	9C	9D	9E	9F
Blue	100%	D9	DA	DB	DC	DD	DE	DF
Yellow	25%	21	22	23	24	25	26	27
Yellow	50%	61	62	63	64	65	66	67
Yellow	75%	A1	A2	A3	A4	A5	A6	A7
Yellow	100%	E1	E2	E3	E4	E5	E6	E7
Purple	25%	29	2A	2B	2C	2D	2E	2F
Purple	50%	69	6A	6B	6C	6D	6E	6F
Purple	75%	A9	AA	AB	AC	AD	AE	AF
Purple	100%	E9	EA	EB	EC	ED	EE	EF
Cyan	25%	31	32	33	34	35	36	37
Cyan	50%	71	72	73	74	75	76	77
Cyan	75%	B1	B2	B3	B4	B5	B6	B7
Cyan	100%	F1	F2	F3	F4	F5	F6	F7
White	25%	39	3A	3B	3C	3D	3E	3F
White	50%	79	7A	7B	7C	7D	7E	7F
White	75%	B9	BA	BB	BC	BD	BE	BF
White	100%	F9	FA	FB	FC	FD	FE	FF
OFF	0%	00	00	00	00	00	00	00







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