



## Pistol Grip Application Tool

Customer Name: \_\_\_\_\_

Contact Name: \_\_\_\_\_

Email: \_\_\_\_\_ Phone: \_\_\_\_\_

Application Description / Machine Type: \_\_\_\_\_

Date of Submission: \_\_\_\_/\_\_\_\_/\_\_\_\_ Revision: \_\_\_\_\_

**Thank you for considering Cervis, we look forward to working with you in your application.**

This tool is designed as a pre-sale document to aid in the communication and documentation of the application. The information presented in this document will be used for quoting purposes and therefore it is recommended to provide as much detail as possible such that the following proposal reflects the total requirements as closely as possible.

Should any questions arise during use of this document please contact Cervis' sales department at 724-741-9000. Thank you for considering Cervis, we look forward to working with you in your application.

### Application Description

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Describe application including environment of operation:

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### Radio Frequency Operation Options

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900MHz  10mW Output Power (Typical Range ~300m)

2.4GHz  100mW Output Power\* (Typical Range ~300m)

**Note:** Range estimations above are not guarantees and are dependent on device to device relationship and obstructions that will reduce the quality of the RF link. Operating distances mentioned above are results based upon good "conditions" and "line of sight" between devices.

## Pistol Grip Design

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The **SmART Wireless** pistol grip is available in multiple configurations that are derived from four standard physical layouts. Minor adjustments to the layouts can be accommodated. Major layout requests will be quoted based upon the supporting business case.

### Standard Layout Choices

- Seven toggle       Single Joystick       Two Joystick       Six toggle/display



### Pistol Grip Options

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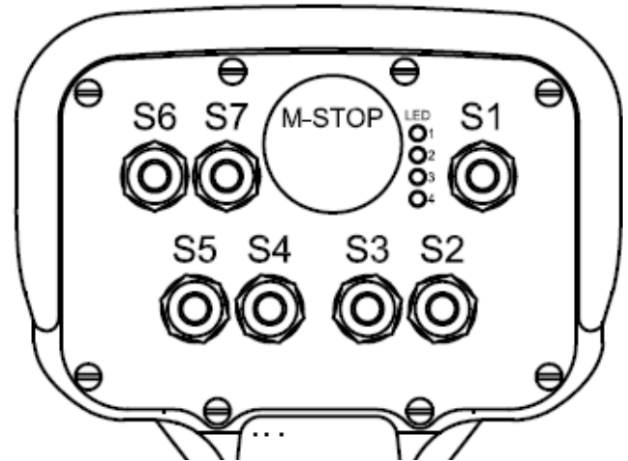
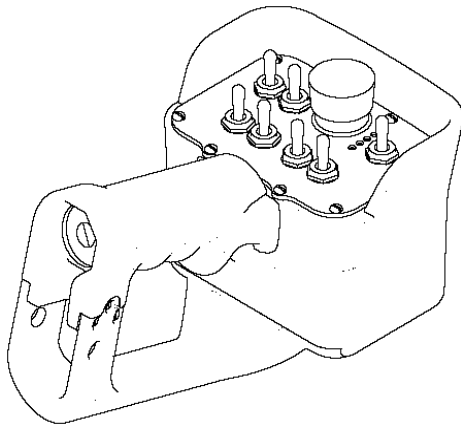
- Variable potentiometer option (two max: one pot sacrifices one toggle switch position)
- Tether back-up option  
Supports loss of RF communication and loss of battery power
- Display option

Describe desired display usage: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Preferred selection in **BOLD** and UNDERLINED.

# Pistol Grip Design

## PG-XH14



<u>FUNCTION:</u>		<u>SWITCH</u> <u>TYPE</u>	<u>CUSTOM LOGIC</u>
TRIGGER			
*S1 +			
*S1 -			
S2 +			
S2 -			
S3 +			
S3 -			
S4 +			
S4 -			
S5 +			
S5 -			
S6 +			
S6 -			
*S7 +			
*S7 -			

\* Switch required

**Function Name Example**  
**Switch Type**

Drive Forward, Drive Reverse, Rotate CCW, Rotate

- POT (Potentiometer)
- PB (Push Button)
- 3PM (Three Position Momentary toggle switch)
- 3PD (Three Position Maintained toggle switch)
- 2PM (Two Position Momentary toggle switch)
- 2PD (Two Position Maintained toggle switch)
- 3PMD (Three Position Maintained/Momentary toggle switch)

Describe any special requirements:

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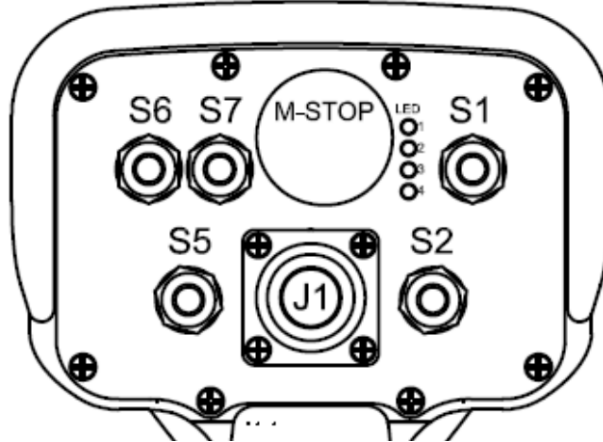
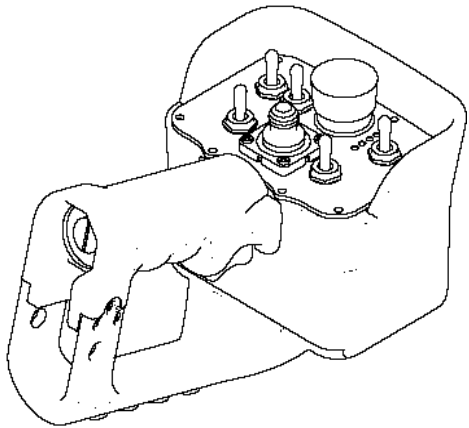


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PG-XH10JS



<u>FUNCTION:</u>		<u>SWITCH TYPE</u>	<u>CUSTOM LOGIC</u>
TRIGGER			
*S1 +			
*S1 -			
S2 +			
S2 -			
JS1Y+			
JSY-			
JSX+			
JSX-			
S5 +			
S5 -			
S6 +			
S6 -			
*S7 +			
*S7 -			

\* Switch required

<b>Function Name Example</b>	Drive Forward, Drive Reverse, Rotate CCW, Rotate
<b>Switch Type</b>	POT (Potentiometer)
	PB (Push Button)
	3PM (Three Position Momentary toggle switch)
	3PD (Three Position Maintained toggle switch)
	2PM (Two Position Momentary toggle switch)
	2PD (Two Position Maintained toggle switch)
	3PMD (Three Position Maintained/Momentary toggle switch)
	SA-X (Single X-Axis Joystick)
	SA-Y (Single Y-Axis Joystick)
	DAOG (Dual Axis Open-Gate Joystick)
	DACG (Dual Axis Closed-Gate Joystick)

Describe any special requirements:

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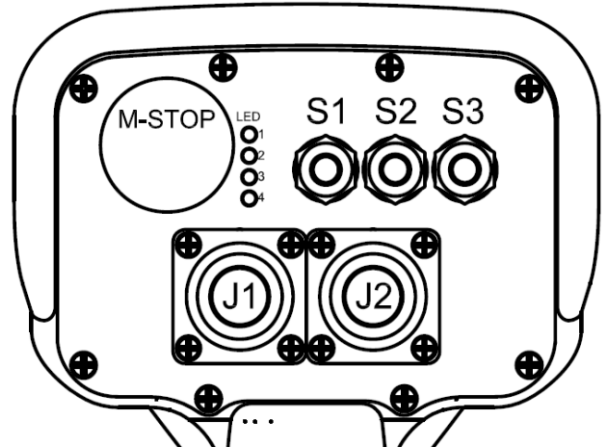
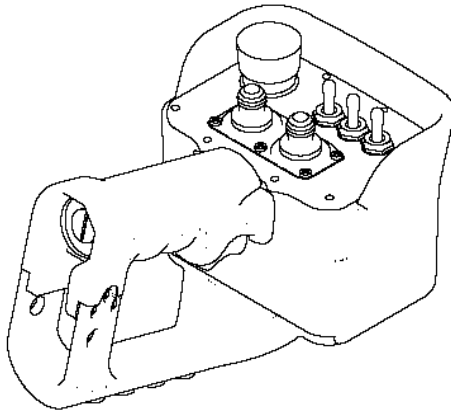
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Preferred selection in BOLD and UNDERLINED.

**PG-XH12JS**



<b><u>FUNCTION:</u></b>		<b><u>SWITCH TYPE</u></b>	<b><u>CUSTOM LOGIC</u></b>
TRIGGER			
*S1 +			
*S1 -			
S2 +			
S2 -			
S3 +			
S3 -			
JS1Y+			
JS1Y-			
JS1X+			
JS1X-			
JS2Y+			
JS2Y-			
JS2X+			
JS2X-			

\* Switch required

<b>Function Name Example</b>	Drive Forward, Drive Reverse, Rotate CCW, Rotate
<b>Switch Type</b>	POT (Potentiometer)
	PB (Push Button)
	3PM (Three Position Momentary toggle switch)
	3PD (Three Position Maintained toggle switch)
	2PM (Two Position Momentary toggle switch)
	2PD (Two Position Maintained toggle switch)
	3PMD (Three Position Maintained/Momentary toggle switch)
	SA-X (Single X-Axis Joystick)
	SA-Y (Single Y-Axis Joystick)
	DAOG (Dual Axis Open-Gate Joystick)
	DACG (Dual Axis Closed-Gate Joystick)

**Describe any special requirements:**

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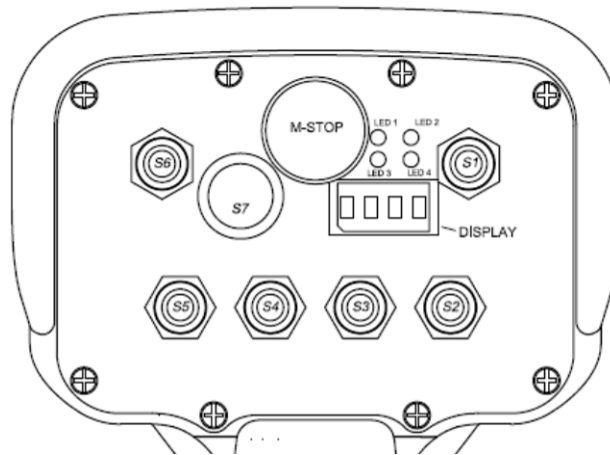
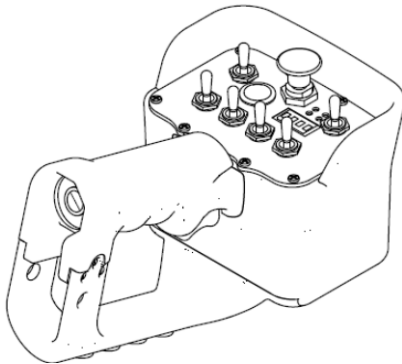


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PG-XH12/DISPLAY



<u>FUNCTION:</u>		<u>SWITCH TYPE</u>	<u>CUSTOM LOGIC</u>
TRIGGER			
*S1 +			
*S1 -			
S2 +			
S2 -			
S3 +			
S3 -			
S4 +			
S4 -			
S5 +			
S5 -			
S6 +			
S6 -			
S7		PB	

\* Switch required

**Function Name Example**  
**Switch Type**

Drive Forward, Drive Reverse, Rotate CCW, Rotate

- POT (Potentiometer)
- PB (Push Button)
- 3PM (Three Position Momentary toggle switch)
- 3PD (Three Position Maintained toggle switch)
- 2PM (Two Position Momentary toggle switch)
- 2PD (Two Position Maintained toggle switch)
- 3PMD (Three Position Maintained/Momentary toggle switch)

Describe any special requirements:

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\*\* Please contact salesman about LED display capabilities\*\*

Preferred selection in BOLD and UNDERLINED.



## Pistol Grip Software Feature

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Handheld Inactivity Timeout

- 4 Minutes       10 Minutes       Other \_\_\_\_\_ Minutes

## Pistol Grip Accessories

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Tether cable 50 foot length with machine mount bulkhead connector/dust cap

Tether cable 24 foot with flying leads for terminal strip mounting

**Base Unit Antenna Options**

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- Internal Antenna (Typically used when mounting base unit outside of other enclosures)
- External antenna
  - Mounted to Base Unit
  - With 3 foot extension cable (straight connector to panel mount bulkhead)
  - With 10 foot extension cable (straight connector to panel mount bulkhead)
  - With 10 foot extension cable (right angle connector to panel mount bulkhead)
  - With 20 foot extension cable (right angle connector to panel mount bulkhead)



**Base Unit Power Supply**

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- 7-28 VDC\*
- 110-220 VAC 47-440Hz
- 110-340 VDC\*\*
- 12-24 VAC\*\*

\*Some models have split low voltage DC specifications 9-12VDC or 18-36VDC

\*\*Not available on all base unit models

Describe power supply type: \_\_\_\_\_

Preferred selection in BOLD and UNDERLINED.

## Base Unit Output Requirements

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- |                          |                |                          |                         |                 |
|--------------------------|----------------|--------------------------|-------------------------|-----------------|
| <input type="checkbox"/> | Relay contacts | <input type="checkbox"/> | Normally open contact   | Quantity: _____ |
|                          |                | <input type="checkbox"/> | Normally closed contact | Quantity: _____ |

### Contact Rating

- Resistive: 5A at 250 VAC or 30 VDC
- Resistive: 10A at 250 VAC or 30 VDC
- Inductive: 2A at 250 VAC or 30 VDC (proposal will include snubber circuits on contacts)

Resistive load example: indicator light  
Inductive load example: valve or relay coil

Describe output interface: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- 
- |                          |                                    |                                  |
|--------------------------|------------------------------------|----------------------------------|
| <input type="checkbox"/> | PWM (Pulse Width Modulated) output | PWM Frequency: _____ Hz          |
|                          |                                    | Coil Resistance: _____ $\Omega$  |
|                          |                                    | Quantity: _____                  |
| <input type="checkbox"/> | Current control                    | Initial Current: _____ mA        |
|                          |                                    | Final current: _____ mA          |
|                          |                                    | Quantity: _____                  |
| <input type="checkbox"/> | Analog output                      | Variable voltage: ___ to ___ VDC |
|                          |                                    | <input type="checkbox"/> 4-20mA  |

Describe output interface/valve type: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Base Unit Output Requirements (Continued)**

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Motor Reversing H-Bridge 25A Max Load @ 55°C 12 VDC

**Base Unit Data Communication Requirements**

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CAN Bus J1939

CAN Bus CAN Open

**Base Unit Output List**

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	Function Name	Output Type	Logic: Special Requirements
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			

**Function Name Example**

**Output Type:**

**Logic/Special Requirements:**

Drive Forward, Drive Reverse, Rotate CCW, Rotate CW, etc.

Latching, Momentary, PWM, Current, Analog, H-Bridge, CAN Bus, etc.

Describe special conditions for output, i.e., if the output is conditioned on an Input or other function

Preferred selection in BOLD and UNDERLINED.

## Base Unit Input Requirements

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4-20mA

Variable voltage: \_\_\_ to \_\_\_ VDC

Digital

High side voltage: \_\_\_\_\_

Low side (contact to power supply ground)

## Base Unit Input List

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	Function Name	Input Type	Logic: Special Requirements
1			
2			
3			
4			
5			
6			

**Function Name Example**

Boom Pressure, Extend Limit

**Input Type:**

Variable voltage, 4-20mA, Dry contact, etc.

**Logic/Special Requirements:**

Describe if input interacts with other functions

Describe input interface/device: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### Base Unit Options

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Four character LED alphanumeric display



Display Example

Eight character LED alphanumeric display



Describe desired display usage: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### Base Unit Software Requests

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#### Link Definition

**Maintained LINK Enabled** (where all outputs will clear upon loss of link)

**Maintained LINK Disabled** (where latched commands will remain latched upon loss of link, but all momentary commands that are active deactivate)

#### Component Architecture

**One to One** (where one handheld and one base unit have an exclusive pairing)

**Many to One** (where more than one handheld can be paired to a base unit)

**One to Many** (where one handheld is paired to several base units)

**Many to Many** (open architecture where many handhelds and base units are paired)

Describe any special requirements: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Preferred selection in BOLD and UNDERLINED.

## Standard Base Unit Wiring Offering

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- 36"** (multi-conductor cable). 12 conductors in each harness cable
  
- 96"** (multi-conductor cable). 24 conductors in each harness cable

## Base Unit Mounting

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Base Unit Mounting:

- Outside Environment
- Inside Environment
- Inside other enclosure    Metallic enclosure    Polymer Enclosure



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