

System Configuration Manual



98612001 Rev: REL





Contents

Section 2 - Installation	3
Section 3 - Connecting to EXM2 Wi-Fi	3
Section 3.1 - Turn on Wi-Fi	3
Section 3.1.1 - EXM2 Input Controller Method	3
Section 3.1.2 - Magnet Method	3
COBRA EXM2 MONITOR FEATURE CALLOUTS	4
Section 3.2 - Connect a device to EXM2 Wi-Fi	4
Section 3.2.1 - Windows 10: Wi-Fi Example	4
Section 3.2.2 - IOS: Wi-Fi Example	7
Section 3.2.3 - Android: Wi-Fi Example	9
Section 3.2.4 - Windows 7: Wi-Fi Example	11
Section 4 - Web Interface	14
Section 5 - Configuring Date/Time Setup	14
Section 6 - Status	15
Section 7 - Installation Setup - Configuring Monitor Instructions	17
Section 8 - Installation Setup - Configuring Value Instructions	22
Section 9 - Configuring All Devices Typical Instructions	23
Section 10 - Configuring Advance Instructions - Travel, Motor Speeds and Primary/Secondary Instructions.	26
Section 11 - RF Pairing Handheld and Gateway - for Replacements Only	30
Section 12 - RF Pairing Handheld to Monitor Module for Replacement Only	32
Section 13 - Firmware Updates	33
Section 14 - Diagnostic Log	36

Section 2 - Installation

Please refer to the EXM2 Installation, Operating, & Maintenance Instructions

www.elkhartbrass.com.

Section 3 - Connecting to EXM2 Wi-Fi

Before starting, confirm the following:

1.Monitor is NOT in Setup mode.

being Solid Magenta).

2.You have a Wi-Fi enabled device available to connect to the EXM2 Wi-Fi.

- Be sure you have privileges to change the Wi-Fi connection settings.

Section 3.1 - Turn on Wi-Fi

There are two ways to turn on the Wi-Fi on an EXM2 monitor:

Section 3.1.1 - EXM2 Input Controller Method

If the Input Controller's Status LED is NOT blinking yellow:

- change to solid blue (about 10 seconds of holding buttons).
- 2. Release the buttons.

If the Input Controller's Status LED is blinking yellow:

- change to blinking blue (about 10 seconds of holding it).
- 2. Release the buttons.

The Wi-Fi is now on, but you will need to connect your device to it. See section 2.2.

Section 3.1.2 - Magnet Method

There is a magnetic switch on the EXM2 monitor's black control box that can be used to turn the Wi-Fi on or off. A magnet (P/N 46058000) is provided with each EXM2 monitor.

1. Touch and hold the magnet to the Wi-Fi symbol on the EXM2 control box.



Manual P/N 98608000 for installation instructions. You can find the most current manual at

• (Setup mode is indicated by the input controller's STATUS LED and monitor's STATUS LED

The device will be disconnected from another networks/internet while connected to the EXM2 Wi-Fi.

1. Push and hold the STOW and DEPLOY buttons until you see the Input Controller's STATUS LED

1. Push and hold the STOW and DEPLOY buttons until you see the Input Controller's STATUS LED

COBRA EXM2 MONITOR FEATURE CALLOUTS

- 2. Continue holding the magnet at the Wi-Fi symbol while the POWER LED starts blinking.
- 3. Continue holding it until:
 - a. STATUS and POWER LEDs on the monitor change to Blue
 - b. The UP-DOWN, RIGHT-LEFT, FOG-STREAM, and AUX LEDs blink blue in a cycling pattern.

The Wi-Fi is now on, but you'll need to connect your device to it. See section 2.2

Section 3.2 - Connect a device to EXM2 Wi-Fi

If the 4 cycling LEDs light green instead of blue, then there is already a device connected to the EXM2 Wi-Fi. If the device connected is not your device, be sure to disconnect or disable the connected device's Wi-Fi before trying to connect your device. EXM2 Wi-Fi only supports 1 device connected at a time. Connect your device under Wi-Fi settings. Some examples of connecting using various operating systems are in the following sections. The general Wi-Fi Network settings are as follows:

- Network Name (SSID): the EXM2 monitor's serial number
 - For example, if the monitor's serial number is 0000012345, then the SSID is 0000012345.
- Security: WPA2-Personal
- Encryption: AES
- Password (or Security Key): EXM2 monitor's serial number backwards
 - For example, if the monitor's serial number is 0000012345, then the network password (or security key) is 5432100000.
- Network type should be set to something other than "Public" ("Private", "Work", etc.).
- Disable auto-connect to network because EXM2 Wi-Fi only works with one device connected. By not auto-connecting, a different device could be used to connect in the future.

Section 3.2.1 - Windows 10: Wi-Fi Example

Steps for connecting using Windows 10. The monitor's serial number for this example is 0000012345. Use your monitor's serial number instead.

1. Select the Wi-Fi icon on the task bar.



- 2. Select Network and Internet settings
- 3. Once settings appear, select "Wi-Fi" under Network and Internet on the left. (It may already be selected).
- 4. Then Select "Show available networks" from the middle.



5. Select these settings, but:

- a. replace "0000012345" with the EXM2 monitor's serial number.



	- 🗆 x
	Deloration
	Reated seconds
	Change adapter options
	Change advanced sharing options
	Network and Sharing Center
	Windows Frewall
	Have a constitut?
	Trank & destantin
oublic places. like	CHIC THE CHI
	Make Windows better
	Give us feedback
c providens for vork.	

b. replace "5432100000" with the EXM2 monitor's serial number backwards.

0 X

Have a guestion Get help

6. Press Save. But NOT done yet.

Change the network setting to "Private". Confirm the other network settings are as below.

Select "Connect"



Select "Yes" to the question, "Do you want to allow your PC to be discoverable ...?"



Un-check "Connect Automatically". Select "Next".



Wait for the network to show connected. Then select "Properties"



You are now connected. Proceed to section 4 of this document.

Section 3.2.2 - IOS: Wi-Fi Example

0000012345. Use your monitor's serial number instead.

1.Open the settings App



2:43 PM Mon Jul 27

2.Select "Wi-Fi"

	Wi-Fi
Settinas	
e e consige	Wi-Fi
Apple ID, iCloud, iTunes &	CHOOSE A NETWORK 🔅
Start Using iCloud	0000012345
	EB-PRIVATE
Finish Setting Up You 🌖 >	EB-PUBLIC
	Other
> Airplane Mode	
S Wi-Fi Not Connected	Ask to Join Networks
Bluetooth On	Known networks will be join no known networks are avai
P Cellular Data Off	to manually select a networ



Steps for connecting using IOS device. The monitor's serial number for this example is



3.Select Monitor Serial Number

- a. Name is the EXM2 monitor's serial number (for example:0000012345).
- b. Password is the EXM2 monitor's serial number backwards (for example: 5432100000).



4.Go back to the network list, the network should then show up in the Wi-Fi list.

Wi-Fi	
0000012345	• * 🕕
CHOOSE A NETWORK	
Other	
Ask to Join Networks	Ø
Known networks will be joined a known networks are available, y manually select a network	utomatically. If no rou will have to

Select the circled (i) icon to get to the network properties. Turn off Auto-Join. Confirm other settings are like shown below.

and a second	<	- * mi
Settings	Forget This Netwo	s.
April Clock Grow &.	Auto-Join	- CO
Start Using Cloud 🧧	PH ADDRESS	
Finish Setting Up You	Configure IP	Automatic
	SP Address	192.168.130.2
🖸 Airplane Mode 🔄 💽	Subnet Mask	255 256 258 0
🖸 WHEE 0000012345	Router	192.168.130.1
Bluetpoth Do Cellular Data Orr	Benew Lasse	
	1946	
Contraction of the second seco	Configure DNS	Automatic
Do Not Disturb	HITTP PROVIDE	
Screen Time	Configure Proxy	Off

You are now connected. Proceed to section 4 of this document.

Section 3.2.3 - Android: Wi-Fi Example

0000012345. Use your monitor's serial number instead.

1.Open the settings App



2.Select "Connections"

[3	Connections Wi-Fi, Bluetooth, Data usage, Air
3.Seleo	ct "Wi-Fi"
<	CONNECTIONS
Wi	-Fi
UII	

4.Select Monitor Serial Number and "Connect", but:

a. replace "0000012345" with the EXM2 monitor's serial number.

b. replace "5432100000" with the EXM2 monitor's serial number backwards.

Select "Advanced". Select these settings then select "Save".

2.54 🖬	2.53 🖬
Advanced	< w
P setlings DHCP V	on
Proxy None •	Availab
Metered network Treat as unmetered	Se (le
	-
	+

Steps for connecting using an Android device. The monitor's serial number for this example is

plane...





9

Turn off "Auto Reconnect", enter the network password, then select "Connect".



Section 3.2.4 - Windows 7: Wi-Fi Example

Steps for connecting using Windows 7. The monitor's serial number for this example is 0000012345. Use your monitor's serial number instead.

1.Select the Wi-Fi icon on the task bar.



5.Go back to the Wi-Fi list, the network should then show up in the Wi-Fi list.

< CONNECTIONS	Q
Wi-Fi	

ecurity Pa2 PSK P address p2 168 130 2 Ianage router uto reconnect	ddress ea 130 2 hage router o reconnect O		
P address 12163 1302 Ianage router uto reconnect	ddress ea 130 2 hage router o reconnect (C) anced	Security NPA2 PSK	
lanage router	ange router	P address	
uto reconnect	age router	32.102.100.2	
uto reconnect	anced	wanage router	
	anced	Auto reconnect	0)
dvanced		Advanced	

You are now connected. Proceed to section 4 of this document.

a. Select to connect to the Network, 0000012345. Enter the password as the serial number backward.

Currently connected to	D: 49			
elkhartbrass.local Internet access				
Wireless Network Conr	nection 🔺			
EB-PRIVATE	Connected			
0000012345	att			
0007504069	.atl			
EB-PUBLIC				
Other Network				
Open Network and Sharing Center				

2.Select "Connect"

3. From the Wi-Fi icon on your taskbar, select "Open Network and Sharing Center" again.

47 Currently connected to: elkhartbrass.local D Internet access Wireless Network Connection ~ **EB-PRIVATE** Connected 2. HP0D966B Other Network all Open Network and Sharing Center

4.Click on the Blue text under this network you just connected to (0000012345).



5.Click on to "Work Network" to change the network type.



The net	vork location is n	ow Work
	Network name:	0000012345
	Location type:	Work On Work networks, you can see o devices on the network, and your discoverable.
View or cha	ange settings in Netwo	ork and Sharing Center
View comp	outers and devices on t	he network

You are now connected.

Canadi a d	
correct	
conect	
ognize them, such as	
i recognize blaces such as	
ble, you're in oublic	
Cancel	
	x
r computers and	
nputer is	
Clos	e

Section 4 - Web Interface

Once connected to the EXM2 network, use your preferred web browser¹ to navigate to exm2. net. If the web page fails to load, try typing in the IP address 192.168.130.1, directly.

Section 5 - Configuring Date/Time Setup

Select "Configure"



Select "Date/Time Setup"

Date/Time Setup

Enter date, hours, and minutes. Select "Set"



Confirmation screen will appear.



Section 6 - Status

To see the status of components, select "Status"

Status

Getting Device Settings. Please Wait...

Once complete, the screen will show all devices and their settings on the CAN bus.

MR_0000012345	Control firmware versions:Boot=3.4;Runtime=4.0.15
MR_0000012345	CommType=CAN-Terminated
MR_0000012345	Model=Cobra EXM 7200 SD / 7250 SD;Customer=Standard
MR_0000012345	Motor speed:H=Fast;V=Fast
MR_0000012345	Switched Stow Signal Output: Available
MR_0000012345	Avail integrated pressure sens: None
MR_0000012345	Monitor pressure reported: None
MR_0000012345	Monitor flow reported: No
MR_0000012345	Valve Type=E14X/E16X Electric Valve; Valve ID=0;
MR_0000012345	Monitor board rev level rev Rel
MR_0000012345	Configured travel degrees H:350;V:170
MR_0000012345	Yes, will auto-close valve before stowing.
MR_0000012345	User-defined vertical limits not set
MR_0000012345	User-defined horizontal limits not set
MR_0000012345	Stow position not set
MR_0000012345	Deploy position not set
MR_0000012345	Left keep-out not set

¹ exm2.net works better on Google Chrome, Apple Safari, and Mozilla Firefox.



IC_1111111111	Primary Controller;Address=0xA1;Group=1
IC_1111111111	Control firmware versions:Boot=2.1;Runtime=2.0.12
IC_11111111111	CommType=CAN-UnTerminated
IC_1111111111	Model= 7010X2 EXM2 Panel Mount Controller
IC_1111111111	Valve Type=E14X/E16X Electric Valve; Valve ID=0;
IC_1111111111	Monitor Vertical Controls = Normal
IC_1111111111	Monitor Horizontal Controls = Normal

If you would like to save the status to a CSV file, select "Download".

Download

A file will download to your device.

		+ 🛛 :
=	fx Last Update	ed: × v 🖬
	Sheet +	
	A	B C
1	Last Updated: Tue Oct	1 11:50:05 2019
2	Device	Settings
3	MR_0000012345	Monitor;Address=0x81;G
4	MR_0000012345	Control firmware versior
5	MR_0000012345	CommType=CAN-Termin
б	MR_0000012345	Model=Sidewinder EXM
7	MR_0000012345	Motor speed:H=Fast;V=F
8	MR_0000012345	Switched Stow Signal Ou
9	MR_0000012345	Avail integrated pressure
10	MR_0000012345	Monitor pressure report
11	MR_0000012345	Monitor flow reported: №
12	MR_0000012345	Valve Type=E14X/E16X E
13	MR_0000012345	Monitor board rev level i
14	MR_0000012345	Configured travel degree
15	MR_0000012345	Yes will auto-close
16	MR_0000012345	User-defined vertical lim
17	MR_0000012345	User-defined horizontal
18	MR_0000012345	Stow pos (degrees from
19	MR_0000012345	Deploy pos (degrees fror
20	MR_0000012345	Left keep-out not set

Section 7 - Installation Setup - Configuring Monitor Instructions

1.Turn on Wi-Fi.

2.Connect to the EXM2 monitor from your device. 3.Use your browser to go to exm2.net 4.Select Configure



5.Select Monitor Positions



-17

7.Select the monitor

MR_0000012345

8. Calibrating Horizontal and Vertical Rotation

CAUTION: This operation will put the monitor in Setup Mode. There are no vertical or horizontal travel limits when in Setup Mode. MOVE THE MONITOR WITH CAUTION WHILE IN THIS MODE.

	Move Monitor	
	1	
CLEAR ALL LI	AITS	
Calibrate Positi	ons	
	Sot Limits	
	1 Upper	
-		
la de la compañía de las secondas de las second	Leftmost → Rig	ntmost
	L'Extract	
	1 Lower	

Calibrating the EXM2 system's horizontal and vertical rotation is a necessary step for EXM2 systems of all types. The calibration points serve as a starting point for all other motion limits and commands entered to the EXM2 system. If not properly calibrated, the system may not operate correctly.

- Calibrating Horizontal Rotation This calibration process will establish the zero (0°) horizontal position and allow rotation half to the left and half to the right of the total rotation range specified during system configuration (ie. 175 degrees left and 175 degrees right of center for a total of 350 degrees of travel).
 - Using RIGHT & LEFT buttons, position the monitor in the location you want to be the center of the allowed range of horizontal travel (i.e. the 0° horizontal position).
 - \leftarrow Horiz. Center \rightarrow The status Select LED on the monitor should blink then turn solid.
 - The horizontal axis is now calibrated.



- Select "Confirm"



The monitor's status LED will blink, then turn back to solid.

The monitor's 4 cycling LEDs will simultaneously light solid (yellow), indicating command acknowledgment. An acknowlegement message will display on webpage.

- point is in the middle of the rotation range.
 - the uppermost limit of travel specified during system configuration.
 - Select ↑ Vert. Top
 - The vertical axis is now calibrated.



crash into itself at the lower points of vertical travel. BE CAREFUL NOT TO MOVE THE

MONITOR INTO OBSTRUCTIONS OR ITSELF as this will cause the monitor motors to

over current. The monitor may need to be manually reversed if this occurs.

18





 <u>Calibrating Vertical Rotation</u> - (Optional) The Vertical calibration point is factory set at 90° (straight up). This is the position needed when wiring for extended travel (see Installation, Operating, and maintenance Instructions 98XXX000), or when using a Position Feedback Display. This calibration will establish the highest vertical travel point of the monitor and allow rotation in the downward direction the total range specified during system calibration. This differs from the horizontal rotation calibration where the zero

Using the UP & DOWN buttons, position the monitor such that it is aimed directly vertical or at

• Exit Setup Mode by selecting "Back to set Limits" button and check the monitor's rotation limits. The monitor should not hit itself or other objects. Recalibrate the EXM2 system if needed.

Caution: If the vertical zero point is set too far forward, the monitor may be allowed to

Limits may be cleared by selecting

CLEAR ALL LIMITS

Set up all range of motion limits by moving the monitor to its intend farthest position and select the Set **limits button**. For example:

Move the monitor to the furthest Upper position and select

Select Next to set Keep-Out Zones.

9.Keep-Out Zones (Optional)

Keep-Out Zones are used when it is desired to restrict the motion of the monitor to a smaller more specific range than that set during system calibration. Keep-Out Zones are different from travel limits in that they do not restrict motion completely in any one direction. Keep-Out Zones can be set to allow the monitor to move above a certain zone or beside the zone to either the left or right.

- Lower-Right Keep-Out Zone The Right Keep-Out Zone will prevent the monitor from moving down and to the right into a specified zone (reference figure 1).
 - Move the monitor to the upper left corner of the keep out zone.
 - The Keep-Out Zone should be set within the previously set monitor calibration points. If a Keep-Out Zone is set outside the intended operating area, operation of the monitor may be unpredictable.
 - Select → (Lower-Right)
 - When the EXM2 system is taken out of Setup Mode, the monitor will be prevented from moving below and to the right of this point.

Select "Confirm"

The monitor's status LED will blink, then turn back to solid.

The monitor's 4 cycling LEDs will simultaneously light solid (yellow), indicating command acknowledgment. An acknowledgment message will display on webpage.

Travel limits are used when it is desired to restrict the motion of the monitor to a smaller, more specific range than the one set at the factory or during system configuration. Travel limits can be used to aid in avoiding objects that may interfere with the motions of the monitor.





Limits may be cleared by selecting



limits button. For example:

Move the monitor to the furthest Upper position and select

Select Next to set Keep-Out Zones.

9.Keep-Out Zones (Optional)

Keep-Out Zones are used when it is desired to restrict the motion of the monitor to a smaller more specific range than that set during system calibration. Keep-Out Zones are different from travel limits in that they do not restrict motion completely in any one direction. Keep-Out Zones can be set to allow the monitor to move above a certain zone or beside the zone to either the left or right.

- and to the right into a specified zone (reference figure 1).
 - Move the monitor to the upper left corner of the keep out zone.
 - The Keep-Out Zone should be set within the previously set monitor calibration points. If a Keep-Out Zone is set outside the intended operating area, operation of the monitor may be unpredictable.
 - Select \rightarrow (Lower-Right)
 - below and to the right of this point.

Select "Confirm"

- the left into a specified zone (reference figure 1)
 - Move the monitor to the top right corner of the keep out zone

 - Select \leftarrow (Lower Left)
 - below and to the left of this point





Set up all range of motion limits by moving the monitor to its intend farthest position and select the Set

• Lower-Right Keep-Out Zone - The Right Keep-Out Zone will prevent the monitor from moving down

When the EXM2 system is taken out of Setup Mode, the monitor will be prevented from moving

• Lower-Left Keep-Out Zone - The Left Keep-Out Zone will prevent the monitor from moving down and to

• The Keep-Out Zone should be set within the previously set monitor calibration points. If a Keep-Out Zone is set outside the intended operating area, operation of the monitor may be unpredictable.

• When the EXM2 system is taken out of Setup Mode, the monitor will be prevented from moving

Figure 1: Keep-Out Zones

10. Stow Position

The Stow Position is a preset position that can be used to bring the monitor into a position suitable for when the system is powered off. A stow position must be within the allowed travel area defined by any travel limits or keep-out zones, therefore it is recommended that travel limits and keep-out zones are set before setting a stow position.

- Move the monitor to the desired position while in normal operation; not in setup mode. If a travel limit or keep-out zone boundary is met, move the discharge off the boundary a short distance.
- Select STOW Position Then, select "Confirm"
- This position will be the Stow Position when the system is brought out of Setup Mode.



Warning! Water SHOULD NOT be flowing while stowing the monitor

11. Deploy Position (Optional) Then, Select "Confirm"

The Deploy Position is a preset position that can be used to bring the monitor to a user programmed position. A deploy position must be within the allowed travel area defined by any travel limits or keep-out zones, therefore it is recommended that travel limits and keep-out zones are set before setting a deploy position.

- Move the monitor to the desired position. If a travel limit or keep-out zone boundary is met, move the discharge off the boundary a short distance.
- Select DEPLOY Position
- This position will be the Deploy Position when the system is left in Setup Mode.



Use an EXM2 controller to move the monitor across its full travel range and check any stow/deploy operations to confirm the monitor positions are set as desired.

Section 8 - Installation Setup - Configuring Valve Instructions

- 1.Turn on Wi-Fi.
- 2.Connect to the EXM2 monitor from your device.
- 3.Use your browser to go to exm2.net

4.Select Configure.





7.Calibrate valve

valve has not been calibrated.

Calibrate it at this time by first placing the valve in a half open position, and then Initiate Calibration Allow the valve to complete all movements (closed, opened, selecting closed) before entering additional commands to the system.

Enter a value to set preset percentage.

recalibration before new limits will be displayed.

Section 9 - Configuring All Devices Typical Instructions

Typical configuration allows vertical and horizontal travel limits, type of input controller, primary controller and valve to be set. For all other settings, please refer to the Advanced section.

Turn on Wi-Fi to view all devices on CAN.

Select configure.



SelectTypical



All devices on the CAN bus will appear.

	99 Settings
Serial Number	9999999999
Model Description	7200HDX2/7250HDX2 Coora ** EXM
Valves	
VL_489250	Settings
Seriel Number	489250
Model Description	E14X/E16X Electric Volve Actuator
Controllers	
IC 9999999999	9 Settings
Serial Number	9699669999
Description	7010X2 EXM2 Panel Mount Controller
33 UN 04 NS	- 6142
Monitor Positio	n Displays
	ettings
PD_999999 Se	
PD_999999 Se Seriel Number 99	9999

22

NOTE: LEDs flashing above the closed & open buttons on an input controller indicate that the

8. Move monitor vertically to both upper and lower limits of travel, then left and right limits of travel. This will calibrate the position display. Dimly lit LEDs will show maximum allowed travel, and the brightly lit LED will show monitor position within the allowed travel. Changes to the travel limits will require

-Controllers		
IC_700406 Se		ttings
Serial Number 700		0406
Description Unk (25		known Model 5) Unknown
Priority to Control Monitor		mary Controller
IC_11111111	11	Settings
Serial Number		1111111111
Description		7010X2 EXM2 Panel Mount Controller
Priority to Control Monitor		Secondary Controller



Select "Next"



Enter travel degrees and select "Next"

NOTE: Changing monitor travel limits may reset limits, keep-out zones, and/or stow/deploy positions set using the "Monitor Positions" setup.



Review controllers for the monitor. Select yes or no for each one. Select "Next"

Con	troll	ers for this	Monitor?
Yes	No	Serial No.	Type (Currently)
۲		700406	Unknown Model (255) Unknown
۲		1111111111	7010X2 EXM2 Panel Mount Controller
Ne	ext		

Review valve and select the existing option.

–Valves——	
VL_510479	Settings
Serial Number	510479
Model Description	E14X/E16X Electric Valve Actuator



Select primary controller.

 Initial and the second s	Initial and the second secon	Primary	Serial No.	Туре
None None	None None	۲	1111111111	7010X2 EXM2 Panel Mount Controller
			None	None

Select "Next" and "Confirm"



-25-



Confirmation screen will appear.

EXM2 Configured -Success!

Section 10 - Configuring Advance Instructions - Travel, Motor Speeds and Primary/Secondary Instructions

1.Turn on Wi-Fi.

- 2.Connect to the EXM2 monitor from your device.
- 3.Use your browser to go to exm2.net
- 4.Select "Configure" and this will be in Setup mode.



5.Select "Advanced"



6. This will show all items on the CAN bus. By selecting the green section, the inputs will be visible and can be modified.

MR_9999999	999	Setti
Serial Number		999999
Model Description		7200H
Valves———		
VL_489250	Settin	ngs
Sorial Number	400050	
Senarmuniber	489250)
Model Description Controllers	489250 E14X/E) E16X Elect
Model Description Controllers IC_999999999	489250 E14X/E	5 16X Elect Setting
Model Description Controllers IC_999999999 Serial Number	489250 E14X/E) E16X Elect Setting 9999999
Model Description Controllers IC_999999999 Serial Number Description	489250 E14X/E	5 516X Elect Setting 99999999 7010X2 1
Model Description Controllers IC_999999999 Serial Number Description Monitor Position Display	489250 E14X/E	9 516X Elect Setting 99999999 7010X2 I
Model Description Controllers IC_999999999 Serial Number Description Monitor Position Display PD_999999	489250 E14X/E 999 /s Settir	5 16X Elect Setting 9999999 7010X2
Model Description Controllers IC_999999999 Serial Number Description Monitor Position Display PD_999999 Serial Number Serial Number	489250 E14X/E 999 Settin 999999	Setting 99999999 7010X2

) 7250HDX2 Cobra™ EXM
lve Actuator
Panel Mount Controller
splay

7.The monitor setting can be modified and then saved.

MR_0000012345	Settings
Serial Number	0000012345
Model Description	7100SDX2 Sidewinder® EXM2 (Click to Change)
Vertical Travel (degrees)	135
Horizontal Travel (degrees)	350
Vertical Motor Speed	Fast Slow
Horizontal Motor Speed	Fast Slow
Communications Type	CAN - Not Terminated
Group	1.(Click to Change)
CAN Address at start-up	81 (80-8F)
Automatically Close Valve Before Stowing	No • Yes
Valve Model to Auto Close Before Stowing (if enabled)	E14X/E16X •
Valve ID to Auto Close Before Stowing (if enabled)	0
Nozzle Pressure Sensor Detected	No
Base Pressure Sensor Detected	No
Nozzle Pressure Sensor	Disabled
Broadcast Nozzle Pressure	No
Base Pressure Sensor	Disabled
Broadcast Base Pressure	No
Broadcast Flow Rate	No

8. The valve settings can be modified and then saved.

Valves		
VL_510479	Settings	
Serial Number	510479	
Description	E14X/E16X El Valve Actuato	
Valve ID	0 (Click to Cha	
Group	1 (Click to Cha	
CAN Address at start-up (Hex)	50	
Valve Motor Direction	 Normal Reverse D Reversed 	
Save To EXM2		

9.Each of the controller settings can be modified and then saved to the device.

IC_5000001480	Settings
Serial Number	5000001480
Description	7030X2 EXM2 Joystick Controller
Priority to Control Monitor	Primary Controller Secondary Controller
Group	1 (Click to Change)
CAN Address at start-up (Hex)	A2 (A0-AF)
Monitor Vertical Controls	Normal Reversed
Monitor Horizontal Controls	Normal Reversed
Valve Model to Control	E14X/E16X 🔻
Valve ID to Control	0
Priority to Control Valve (smaller value is higher priority)	4
Save To EXM2	



Controllers		
IC_5000001060	Settings	
Serial Number	5000001060	
Description	7015X2WH EXM2 Handheld Controller	
Priority to Control Monitor	 Primary Controller Secondary Controller 	
Group	1 (Click to Change)	
CAN Address at start-up (Hex)	A1 (A0-AF)	
Monitor Vertical Controls	Normal Reversed	
Monitor Horizontal Controls	Normal Reversed	
Valve Model to Control	E14X/E16X 🔻	
Valve ID to Control	0	
Priority to Control Valve (smaller value is higher priority)	4	
Save To EXM2		

10. The Position Display settings can be modified and then saved to the device.

Monitor Position Displays		
PD_999999	Settings	
Serial Number	999999	
Description	7051 EXM Position Display	
Group	1 (Click to Change)	
CAN Address at start-up (Hex)	C0 (C0-CB)	
Save To Device		

Section 11 - RF Pairing Handheld and Gateway - for Replacements Only

Pairing is required for a replacement handheld and gateway. Pairing is only initiated using the Wi-Fi interface:

- 1.Connect to Wi-Fi
- 2.Navigate to Exm2.net or 192.168.130.1
- 3.Click "Configure"



4.Click "Advanced"



5.Click GW_SERIAL_NUMBER to expand configuration options

RF/CAN Gateways		
GW_5000001751	Settings	
Serial Number	50000017	
Description	7015X2GV Gateway	
CAN Address at start-up (Hex)	B0 (B0-BF)	
Click to pair RF device (also un-pairs current RF devices):	Pai	

7.Instructions will appear on the webpage to pair the device.

RF Handheld Prep Step 1 of 4.	RF Ha
Click Next to pair RF Handheld. Warning: initiating pairing also un-pairs current RF devices!	Locat RF/C/
Next	N
RF Handheld Prep Step 3 of 4.	RF H
Remove the RF handheld from its docking station. Power on the RF handheld Confirm the RF handheld's power LED is green to indicate its battery is charged.	Powe Hold then Relea and C Confi DEPL Wait
Next	N
8.Device is paired when the confirmation s	screen
Pair RF Device GW_500000	1751
Command Completed. Success!	

Once handheld STATUS LED is no longer red, it is ready for use.

Pair button pushed. Please wait for completion. Pairing started on RF/CAN gateway device. Please wait... Command received by RF/CAN gateway device. Please Wait.. Clearing previously paired devices from RF/CAN gateway device. Please wait. Creating new RF key on RF/CAN gateway. Please wait ...



r RF

andheld Prep Step 2 of 4.
te the RF handheld to pair with this AN device.
lext
andheld Prep Step 4 of 4.
er off the RF handheld. down STOW and DEPLOY, power on RF handheld. ase buttons. The RF handheld EXT OSC LEDs may blink. firm RF handheld STOW and LOY LEDs start flashing. for STOW and DEPLOY LEDs to solid.

appears. Select "Pair Gateway"



6.Click "Pair RF"



lext

Section 12 - RF Pairing Handheld to Monitor Module for Replacement Only

Only specialized monitor modules can be paired directly to a RF handheld. Most monitors require the RF/CAN gateway to communicate to the RF handheld. If purchased as a package, handheld should already be paired to the monitor. Pairing is only initiated using the Wi-Fi interface:

1.Connect to Wi-Fi

- 2.Navigate to Exm2.net or 192.168.130.1
- 3.Click "Configure"





5. Click MR_SERIAL_NUMBER to expand configuration options

roup 1 ———————————————————————————————————	
MR_0000012345	Settings
erial Number	0000012345

6.Click "Pair RF"



7.Instructions will appear on webpage to pair. RF Handheld Prep Step 1 of 4.

Click Next to pair RF Handheld. Warning: initiating pairing also un-pairs current RF devices!

Next

RF Handheld Prep Step 3 of 4.

Remove the RF handheld from its docking station. Power on the RF handheld Confirm the RF handheld's power LED is green to indicate its battery is charged.



RF Handheld Prep Step 2 of 4.

Locate the RF handheld to pair with this **RF/CAN** device.



RF Handheld Prep Step 4 of 4.

Power off the RF handheld. Hold down STOW and DEPLOY, then power on RF handheld. Release buttons. The RF handheld EXT and OSC LEDs may blink. Confirm RF handheld STOW and DEPLOY LEDs start flashing. Wait for STOW and DEPLOY LEDs to light solid.

Next

8.Device is paired when the confirmation screen appears.

Command Completed, Success! Once handheld STATUS LED is no longer red, it is ready for use.

Section 13 - Firmware Updates

make the update go faster.

2.Turn on Wi-Fi.

3.Connect to the EXM2 monitor from your device.

4.Use your browser to go to exm2.net

5.Select "Admin" from the main menu.



6.Select "Update Firmware"



7.Wait for it to find devices.

8.Select the device type you want to update firmware for. Wi-Fi for example





1.Disconnect all devices from the CAN bus, except those that you want to update firmware. This will



9.If you selected Monitor or Controller, now choose the specific device that you want to update:

Home	Update Firmware
onfigure	Device Type?
Logs	Controller
Status	Which Controller? None None
	Choose File No Tile Chosen
Admin	No file chosen
	Update

10. Click the Choose File button.



11. Use the explorer to Select the file that contains the firmware update.

- a. For Example, Wi-Fi it's 7nnnX2_WIFlv...MONITOR.bin
- b. For panel mount controller it's 7010X2_RUNv..._PANEL_MOUNT.hex
- 12. Select "Update" button
- 13. Wait for update to complete. Percentage of completion will update.

A Not secure | exm2.net/config-fw.html



14. Confirmation of the update will appear on web interface after this has been completed.



15. Push "Status" button on the main menu and wait for device info to show up.



16. Confirm it shows new firmware.

	right hoop out hot out
IC_9999999999	Primary Controller;Address=0xA0;Group=1
IC_9999999999	Control firmware versions:Boot=2.2;Runtime=2.0.15
IC_9999999999	CommType=CAN-UnTerminated
IC_9999999999	Model= 7010X2 EXM2 Panel Mount Controller
IC_9999999999	Valve Type=Unknown; Valve ID=0;
IC_9999999999	Monitor Vertical Controls = Normal
IC_9999999999	Monitor Horizontal Controls = Normal
Last Updated: Wed	Jul 31 16:50:26 2019 Refresh

-34

Section 14 - Diagnostic Log

1.Turn on Wi-Fi.

- 2.Connect to the EXM2 monitor from your device.
- 3.Use your browser to go to exm2.net
- 4.Select Logs and DTCS for diagnostic trouble codes.



DD/MM/YY hh:mm	Reporter	Descriptio
26/03/19 11 19	MR0000042449	SMODE_VC/
26/03/19 11:19	MR0000042449	VMTR_CAL
26/03/19 11:16	MR0000042449	SMODE_HC/
26/03/10 11:16	MR0000042449	HMTR_CAL
26/03/19 11:16	MR0000042449	HMTR_CAL
26/03/19 11 16	MR0000042449	SMODE_VCA
26/03/19 11:16	MR0000042449	VMTR_CAL
26/03/19 08 59	MR0000042449	SMODE_HCA
26/03/19 08:59	MR0000042449	HMTR_CAL
26/03/19 08:57	MR0000042449	SMODE_HCA
26/03/19 08:57	MR0000042449	HMTR_CAL
26/03/19 08 57	MR0000042449	HMTR_CAL
26/03/19 08 57	MR0000042449	SMODE_VCA
26/03/19 08 57	MR0000042449	VMTR_CAL
26/03/19 08:53	MR0000042449	SMODE_HCA
26/03/19 08:53	MR0000042449	HMTR_CAL
26/03/19 08:53	MR0000042449	HMTR_CAL
26/03/19 08 53	MR0000042449	SMODE_VCA
26/03/19 08:53	MR0000042449	VMTR_CAL
16/03/19 06:44	MR0000042449	SMODE_VSE

5. Selecting Reporter or Description will supply diagnostic code information.

VMTR_CAL Diagnostic Code

The vertical is not calibrated.

The monitor is placed in "safe mode". The monitor will only allow movement a few degrees in the vertical direction before stopping. Releasing and pressing the movement key will reinitiate movement. The input control will do a 2-blink pattern to indicate the uncalibrated condition. Oscillate and stow features are disabled.

If the monitor cannot be calibrated, perhaps there is a user issue or input control issue. A sensor issue may be possible, but is less likely unless accompanied by high severity sensor errors.

« Summary

6.Select "Summary" to go back to the diagnostics trouble codes screen. 7.If you would like to create a CSV file, Select "Download All".



2	Device	Settings
3	MR_0000042453	Monitor;Address=0x81;Group=1
4	MR_0000042453	Control firmware versions:Boot=3.4;Runtime=4.0.15
5	MR_0000042453	CommType=CAN-Terminated
6	MR_0000042453	Model=Sidewinder EXM Standard Duty;Customer=Standard
7	MR_0000042453	Motor speed:H=Fast;V=Fast
8	MR_0000042453	Switched Stow Signal Output: Available
9	MR_0000042453	Avail integrated pressure sens: None
10	MR_0000042453	Monitor pressure reported: None
11	MR_0000042453	Monitor flow reported: No
12	MR_0000042453	Valve Type=E14X/E16X Electric Valve; Valve ID=0;
13	MR_0000042453	Monitor board rev level rev Rel
14	MR_0000042453	Configured travel degrees H:350;V:135
15	MR_0000042453	Yes
16	MR_0000042453	User-defined vertical limits not set
17	MR_0000042453	User-defined horizontal limits not set
18	MR_0000042453	Stow pos (degrees from left and top):H=173;V=67
19	MR_0000042453	Deploy pos (degrees from left and top):H=189;V=67
20	MR_0000042453	Left keep-out not set
21	MR_0000042453	Right keep-out not set
22	IC_5000001060	Secondary Controller (RF);Address=0xA1;Group=1
23	IC_5000001060	Control firmware versions:Boot=None;Runtime=None
24	IC_5000001060	CommType=RF only
25	IC_5000001060	Model= 7015X2WH EXM2 Handheld Controller
26	IC_5000001060	Valve Type=E14X/E16X Electric Valve; Valve ID=0;
27	IC_5000001060	Monitor Vertical Controls = Reversed
28	IC_5000001060	Monitor Horizontal Controls = Reversed
29	IC_5000001480	Primary Controller;Address=0xA2;Group=1
30	IC_5000001480	Control firmware versions:Boot=2.1;Runtime=2.0.9
31	IC_5000001480	CommType=CAN-UnTerminated
32	IC_5000001480	Model= 7030X2 EXM2 Joystick Controller
33	IC_5000001480	Valve Type=E14X/E16X Electric Valve; Valve ID=0;
34	IC_5000001480	Monitor Vertical Controls = Normal
35	IC_5000001480	Monitor Horizontal Controls = Normal

NOTES:



Elkhart Brass Manufacturing Co., Inc.

1302 W. Beardsley Avenue Elkhart, IN 46514

Tel. 574.295.8330

Toll Free 800. 346.0250

Fax 574.293.9914

www.elkhartbrass.com

Email: eb.info@safefleet.net

98612001 Rev: REL 1-21

