

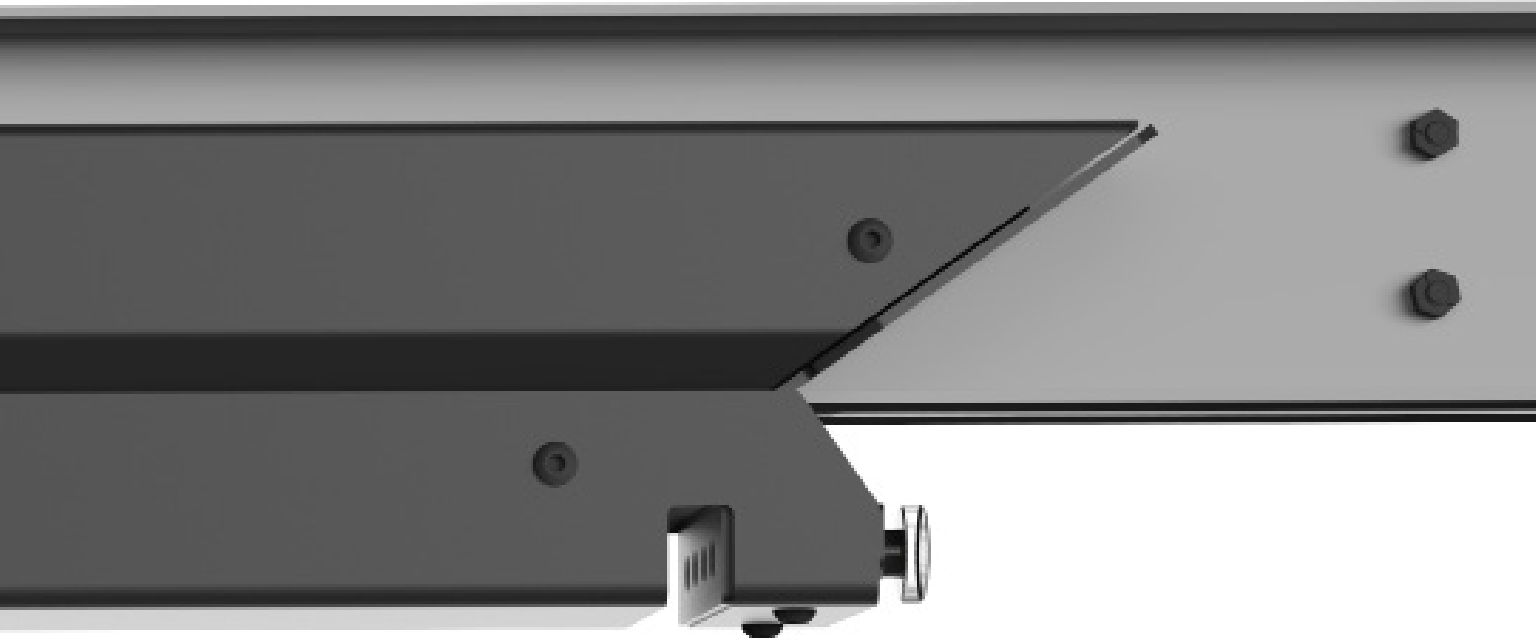
C O M M A N D U R B A N TM



spireOSTM

U R B A N 2 0 2 4 M A N U A L





COMMAND URBAN™

spireOS™

CONTROL/MAINTENANCE MANUAL

Version 2.2 | Spire Ranges © 2024



Our customers are the heroes who make our world, countries, and communities safer. At Spire, we create exceptional shooting range systems that prepare them for when duty calls.

OUR MISSION?

**EVERY HERO COMES
HOME SAFE.**



CONTENTS

COMMAND URBAN:

INTRODUCTION	8
WARRANTY	9
BALLISTIC RATINGS	10
LIMITATION OF LIABILITY	11

MASTER CONTROLS:

NAVIGATION	13
WELCOME	14
MAIN MENU	15
MANUAL SESSION	17
OPERATIONAL CONTROLS	18
OPERATIONAL INDICATORS	19
RANGE CONFIGURATION	21
SETTINGS	22

LOCAL CONTROLS:

NAVIGATION	25
HOME SCREEN	26
MAIN MENU	27
MASTER CONTROLLED	28
COMMUNICATION ERROR	29
MANUAL SESSION	31
MANUAL CONTROL	32
RANGE CONFIGURATION	35
PRESET DISTANCE SETTINGS	36
MENU	37
DEFAULT PRESET DISTANCE SETTINGS	38
STANDARD KEYPAD	39

MOBILE CONTROLS:

MOBILE APP	42
ADD PROGRAM	43

URBAN COMPONENTS:

CARRIER BILL OF MATERIALS	46
CARRIER COMPONENTS	51
MOTOR/DRIVE BOX COMPONENTS	52
RETURN PULLEY COMPONENTS	55
TRACK ACCESSORIES COMPONENTS	56

MAINTENANCE:

WEEKLY / MONTHLY	59
TOOLS	60

CONTENTS

LIST OF TOOLS NEEDED FOR MAINTENANCE.....	61
SCHEMATICS	63
MOTOR/DRIVE BOX.....	64
RECOMMENDED REPLACEMENT PARTS	66
REPLACEMENT PARTS LIST.....	67
SERVICE PLANS:	
SERVICE PLANS	69
TROUBLESHOOTING:	
CABLE REPLACEMENT	71
HMI TOUCH SCREEN.....	72
TARGET UNITS	73
PLC LED INDICATORS.....	74
GLOSSARY:	
TERMS	78
SYMBOLS.....	79

COMMAND URBAN INTRODUCTION

The Command Urban is a motion-controlled, overhead, cable-driven target system that is ideal for any range. Targets can be controlled individually, or synchronized with a Spire master control touch screen and/or app. The Urban system is indoor-rated and proven durable, making it an ideal target system for all types of facilities and organizations; including law enforcement, military, government, commercial, and private ranges.

MASTER CONTROL CONSOLE OVERVIEW

The Master Control Console allows a range master to manually control distance for an individual lanes or for all of the lanes simultaneously on the range. As an option, a phone app allows for the rangemaster to control the system from the firing line. Additionally, an optional wireless remote allows for the range master to control the system from the firing line.

IMPORTANT SAFETY INFORMATION



Maintenance and use must adhere to the guidelines in this manual. Improper use of any of the equipment can result in poor performance, product damage and even serious physical injury. Properly trained personnel should only operate the equipment within the range. For technical, mechanical and electrical maintenance, it is recommended that a trained professional be consulted. Protective headwear, eyewear and gloves should always be worn when performing any maintenance. Danger risks include, but are not limited to, electric shock, head injuries, limb or body crushing, and eye trauma.

WARRANTY OF EQUIPMENT

Refer to agreement documents for specific warranty details for your range. Consumables, negligence, and improper use of equipment (including firing armor-piercing rounds or calibers not approved for your range's ballistic rating) are excluded from all warranties.

All products provided and installed by Spire Ranges are warranted against defects in material or workmanship under normal use and service, subject to limitations detailed below. Warranty period begins at the conclusion of the original installation.

This warranty applies to the original installation only. This warranty does not cover damages caused by improper installation, misuse, or lack of proper maintenance. This warranty does not cover damages caused by alterations or repairs made by anyone who is not pre-authorized in writing by Spire Ranges to modify, alter, repair, or otherwise handle in any way the product.

Spire Ranges reserves the right to determine if any part is defective and to repair or replace parts as it elects. This warranty does not cover shipping costs of defective parts from the owner's site. Return shipping to the site is covered by Spire Ranges during the warranty period. This warranty covers on site labor, travel expenses and accommodations if applicable.

Damage of Spire Ranges equipment resulting in utilizing armor piercing (AP) ammunition or tracer rounds will not be covered under warranty. In addition, high velocity rounds (both ball and frangible) traveling at speeds more than 3000 fps may result in wear, dimpling and pocking of the 1/4" AR500 ballistic shields and target clamps depending on the angle of impact. Such wear, dimpling, and pocking under these conditions is not covered under warranty.

BALLISTIC RATINGS

Ammunition specs listed below are examples of energy and velocity only. Note, any use of Armor Piercing (AP), Steel Core, or Tracer Rounds will void the warranty.

PLATE RATING	MUNITIONS TYPE	MAX ENERGY	MAX VELOCITY
1/4" AR500	Pistol	1175 ft-lbs	1485 fps
3/8" AR500	Pistol/Rifle	3600 ft-lbs	3300 fps
TYP. AMMO	BULLET WEIGHT	MAX ENERGY	MAX VELOCITY
.22 LR	40 gr HP	140 ft-lbs	1400 fps
9MM LUGER	124 gr FMJ	460 ft-lbs	1293 fps
.357 MAG	158 gr JSP	663 ft-lbs	1375 fps
.44 MAG	240 gr SWC	1175 ft-lbs	1485 fps
5.56X45MM NATO	55 gr FMJ	1402 ft-lbs	3388 fps
7.62X51MM NATO	150 gr FMJ	3048 ft-lbs	3025 fps
.308 WIN	150 gr SPTZ	2800 ft-lbs	2900 fps
30-06	180 gr SPTZ	3360 ft-lbs	2900 fps
300 WM	190 gr BTHP	3548 ft-lbs	2900 fps

Spire Ranges products can handle .50 BMG in moderation; however, due to the large amounts of energy exerted from the round, the following applies:

Repeatedly using .50 BMG will shorten the life expectancy of the product and may void warranty.

Repeated impacts of .50 BMG fired in the same location of the product can cause damage in as few as 50 rounds.

Any armor piercing (AP) rounds, particularly those from .50 BMG will void any warranty.

LIMITATION OF LIABILITY

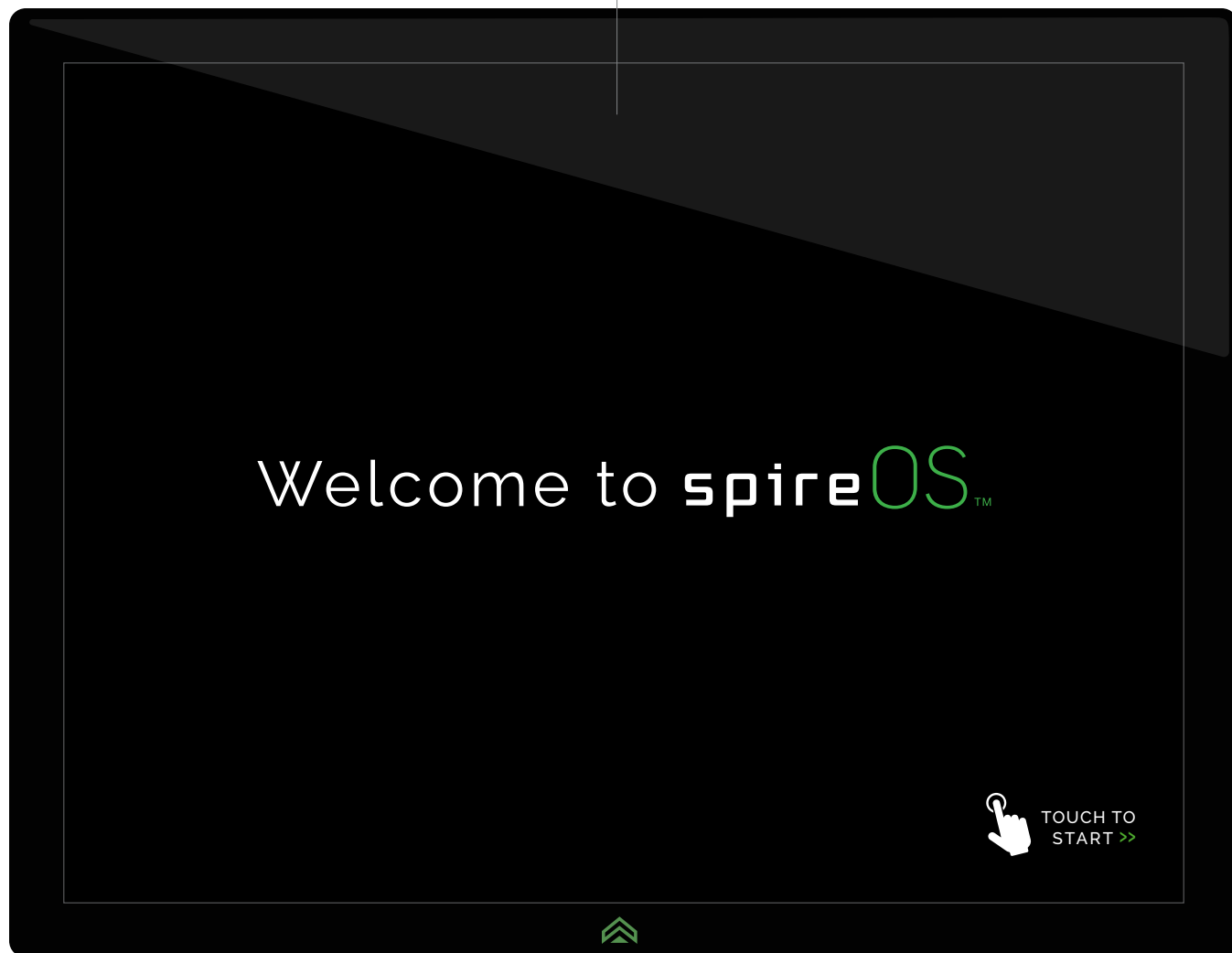
Neither Spire Ranges, nor any company affiliated with it, makes any warranties, representations or promise as to the performance or quality of the product other than what is specified in the original agreement between Spire Ranges and the range Owner. The liability of Spire Ranges to the Owner for damages arising out of the manufacture, sale, delivery, use of resale of this product shall be limited to and shall not exceed the cost of repair or replacement of defective parts. Spire Ranges shall not be liable for loss of use, inconvenience or any other incidental, indirect or consequential damages.

No representative of Spire Ranges has the authority to make any representation or promise on behalf of Spire Ranges or to alter or modify the terms or limitations of warranties in any way.

MASTER CONTROLS:

NAVIGATION

Start by touching anywhere



Manual Operation Screen
p. 18

Range Settings Menu
p. 22



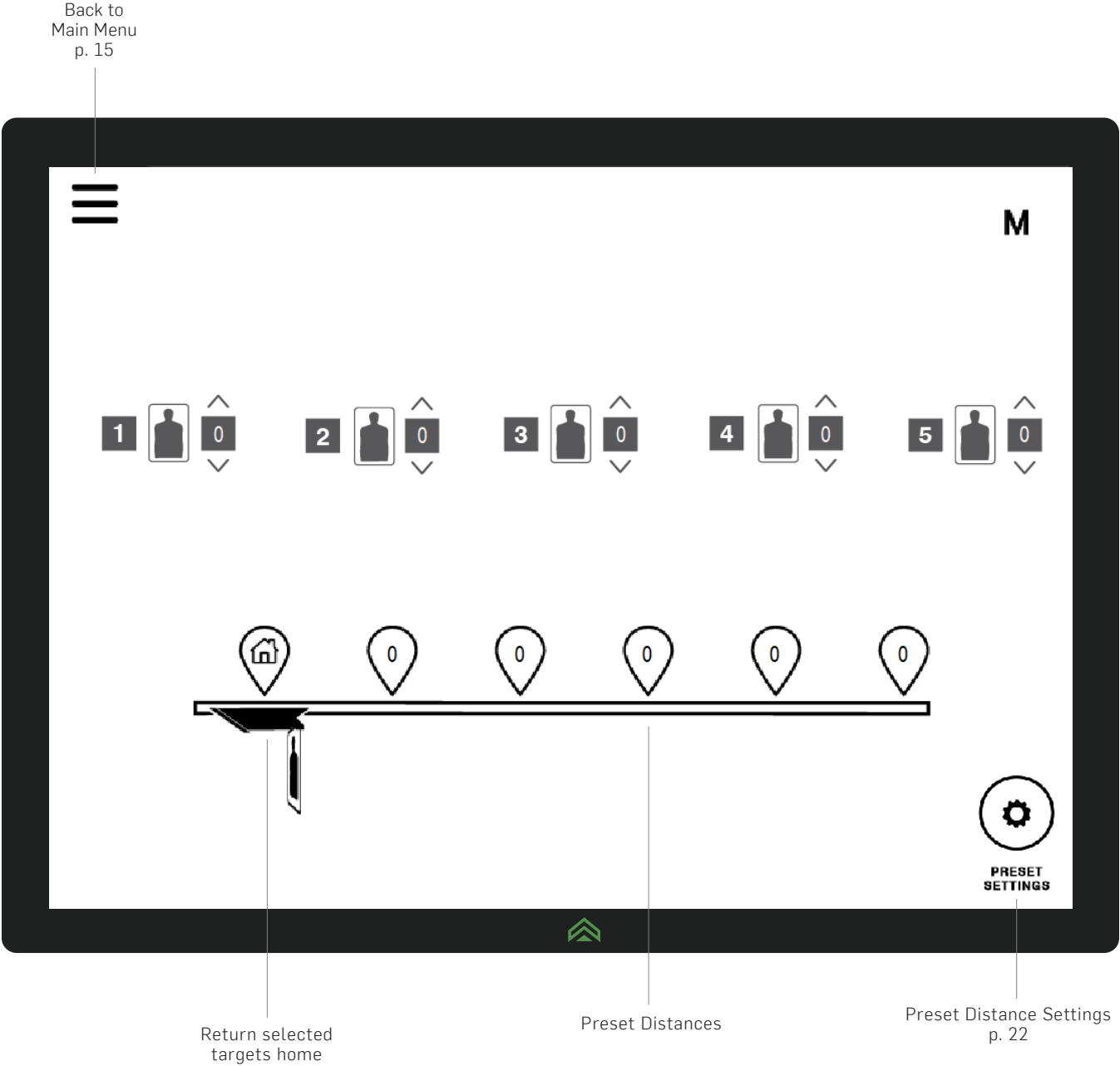
URBAN
OPERATION

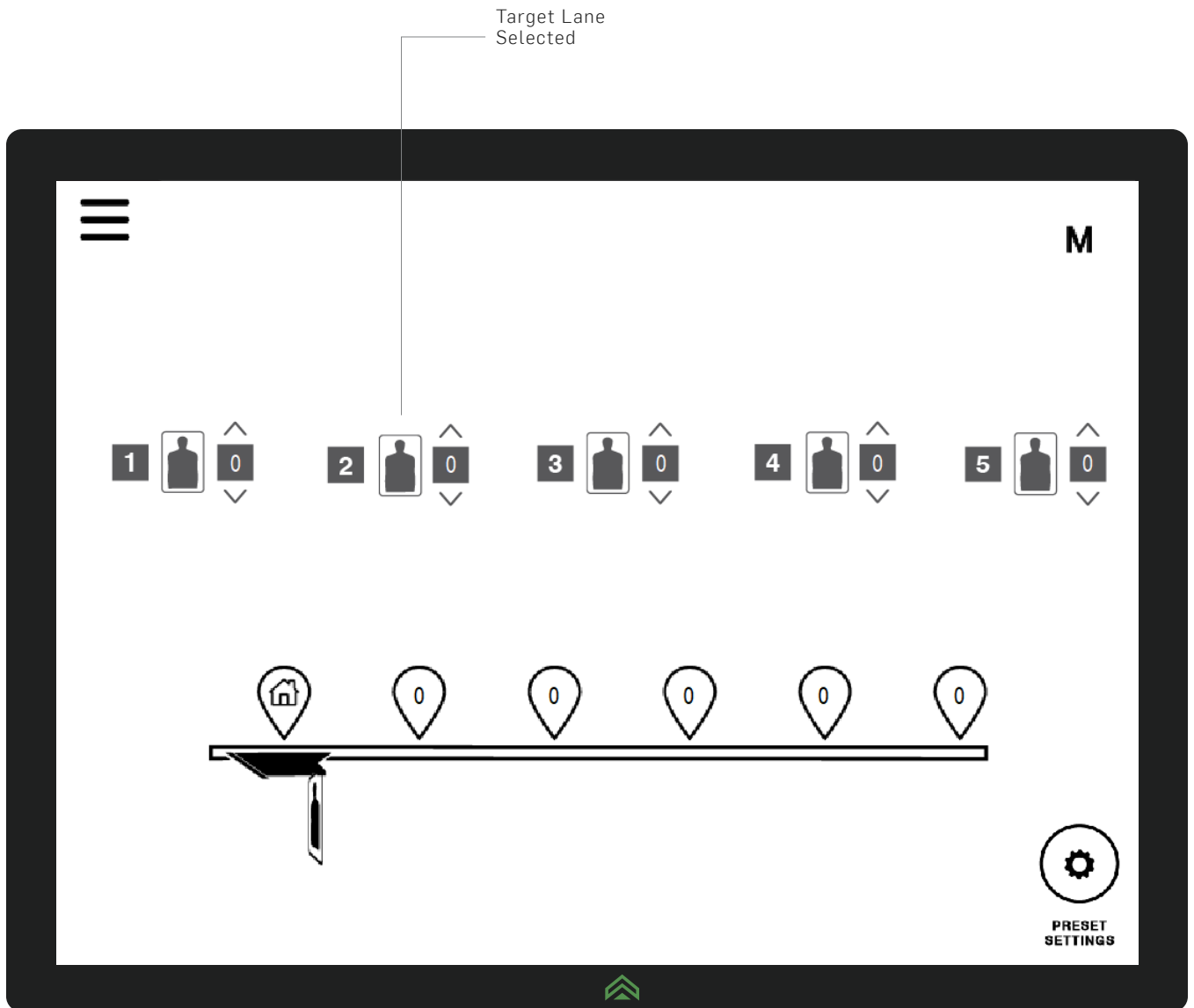


RANGE
SETTINGS



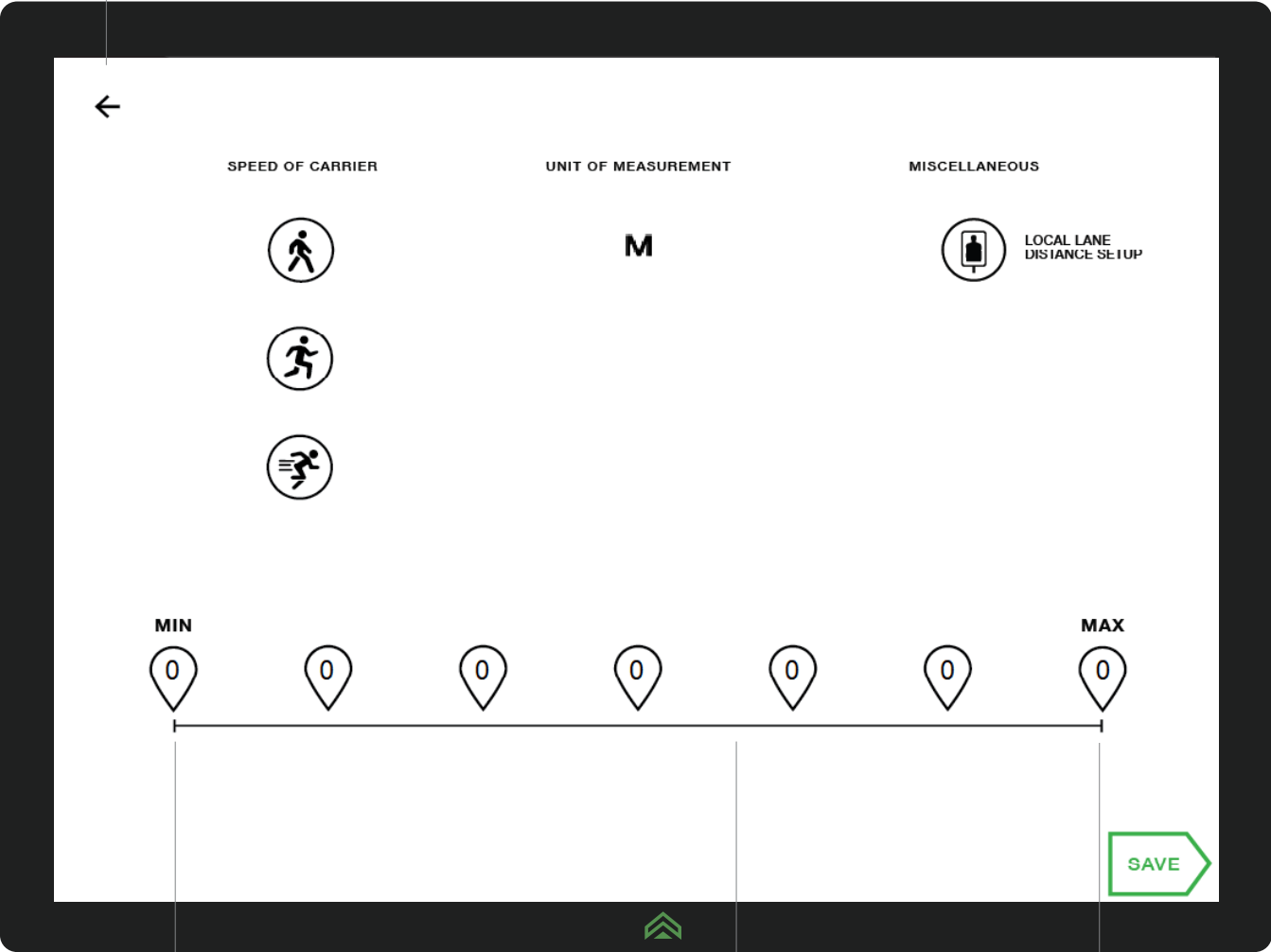
MANUAL SESSION





RANGE CONFIGURATION

Back to
Main Menu
p. 15



Range minimum
distance

Preset Distances

Range maximum
distance

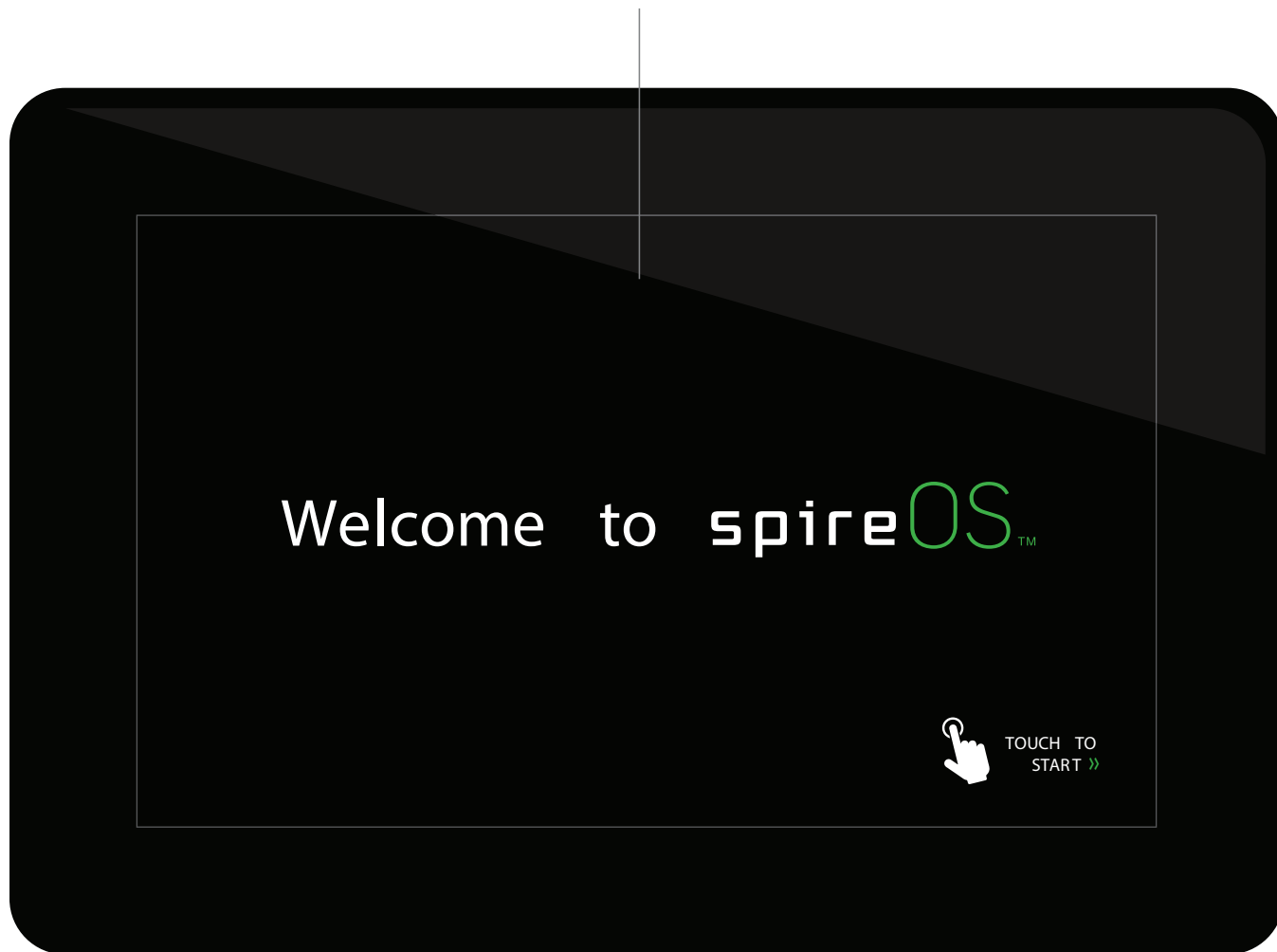


Back to
Main Menu
p. 15

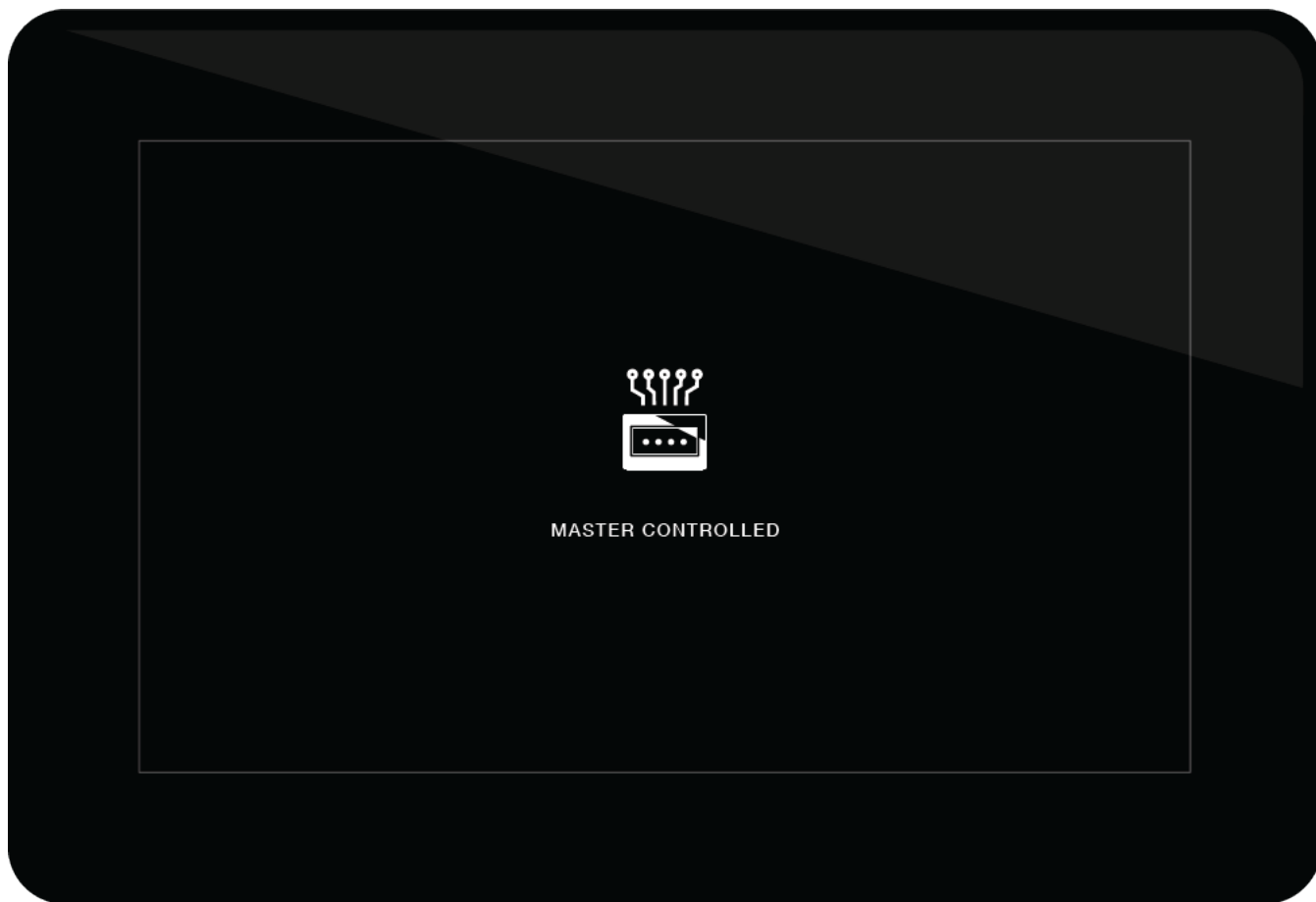
LOCAL CONTROLS:

NAVIGATION

Start by touching anywhere







Master Controlled screen appears when target is selected by master (15" HMI, iPad, or other mobile device)

Master control can be over-riden at the local station by touching the screen for 5+ seconds.

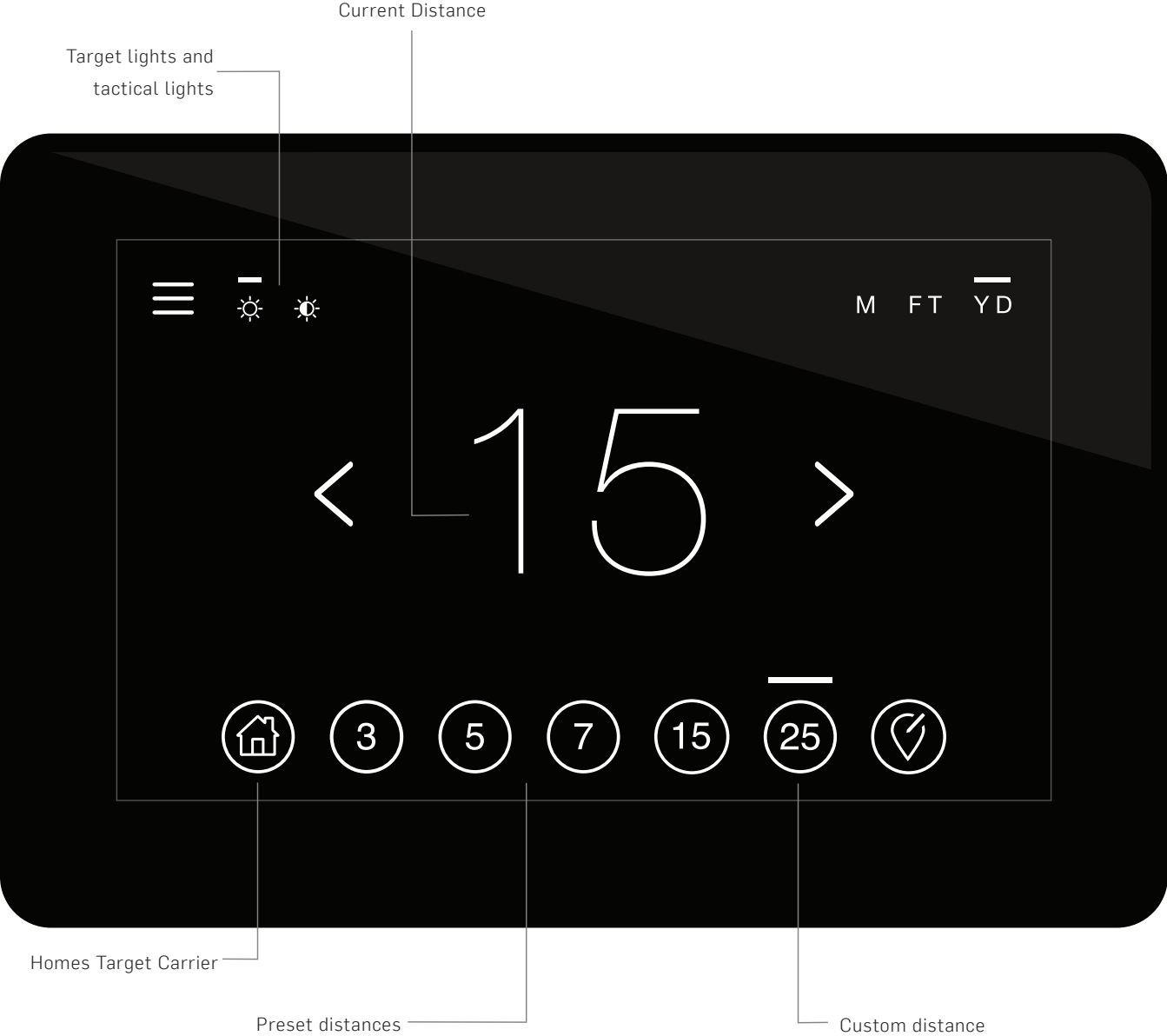
If screen below appears see Trouble Shooting section of manual p. 72



COMMUNICATION ERROR

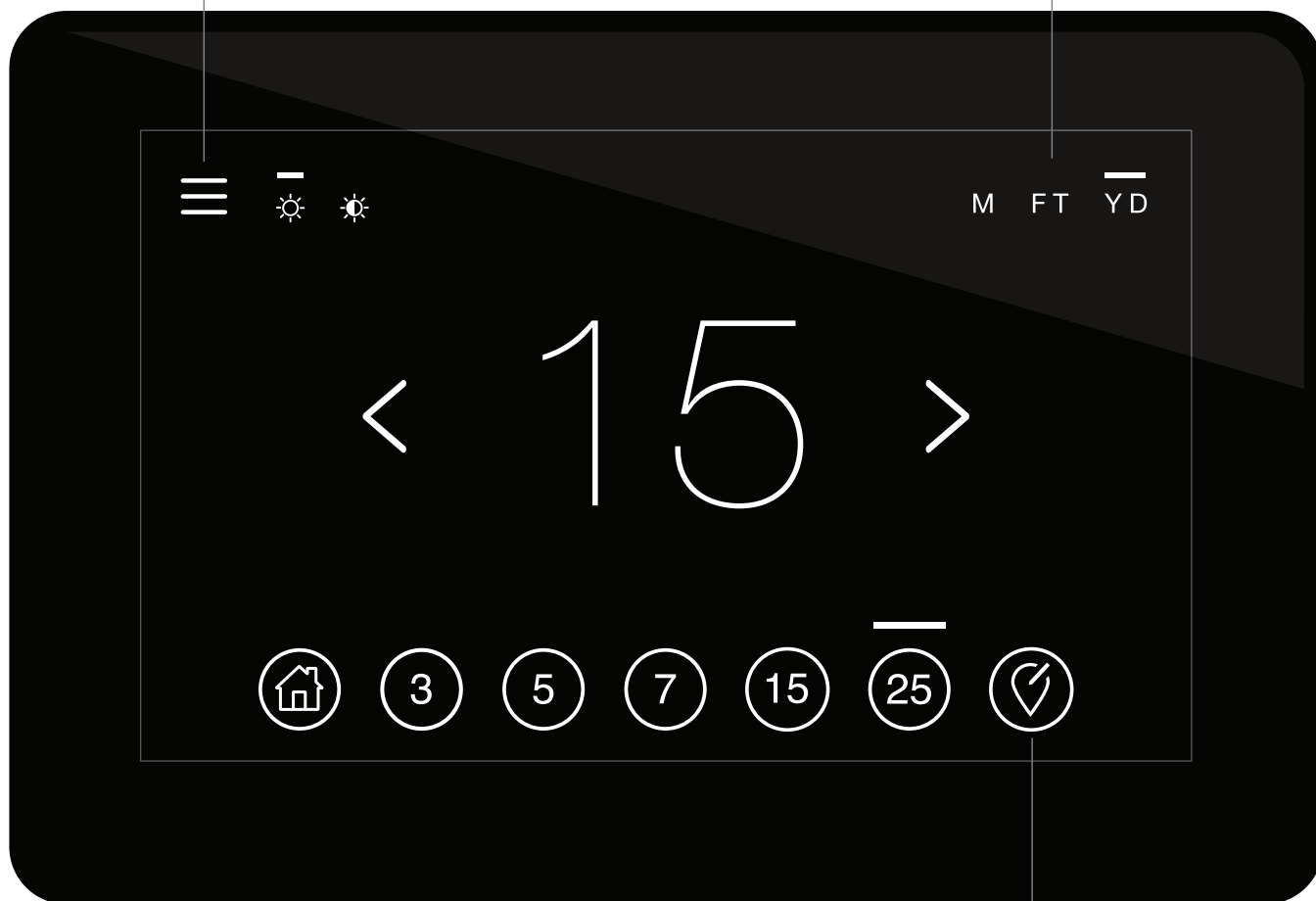
- ↳ Check carrier for power.
- ↳ If powered without response, reset.
- ↳ If still nonresponsive, contact Spire:
1-800-761-1231

MANUAL SESSION



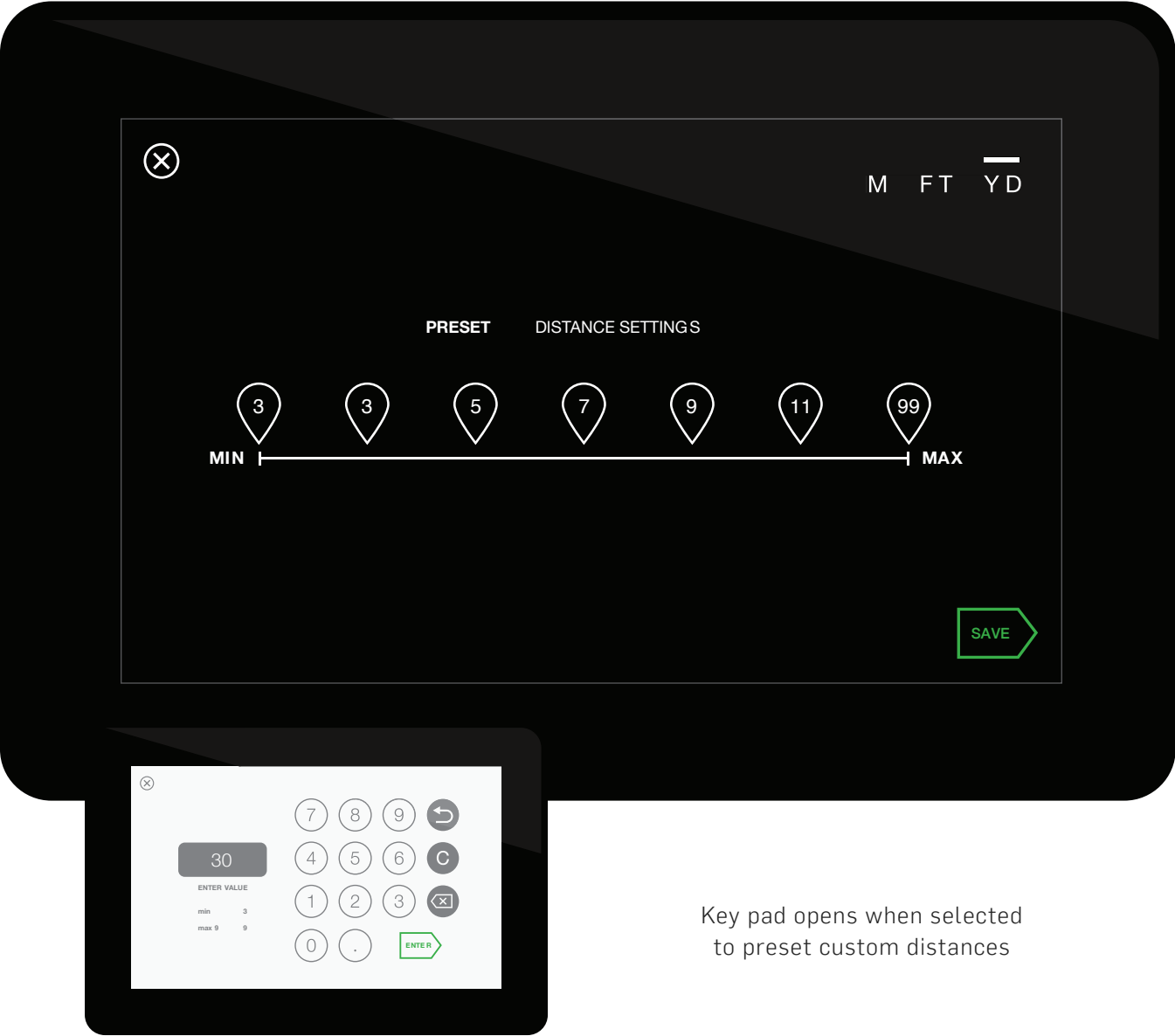
Back to main menu
p. 27

Distance Units



Distance Settings page is
opened when selected
p. 36

RANGE CONFIGURATION

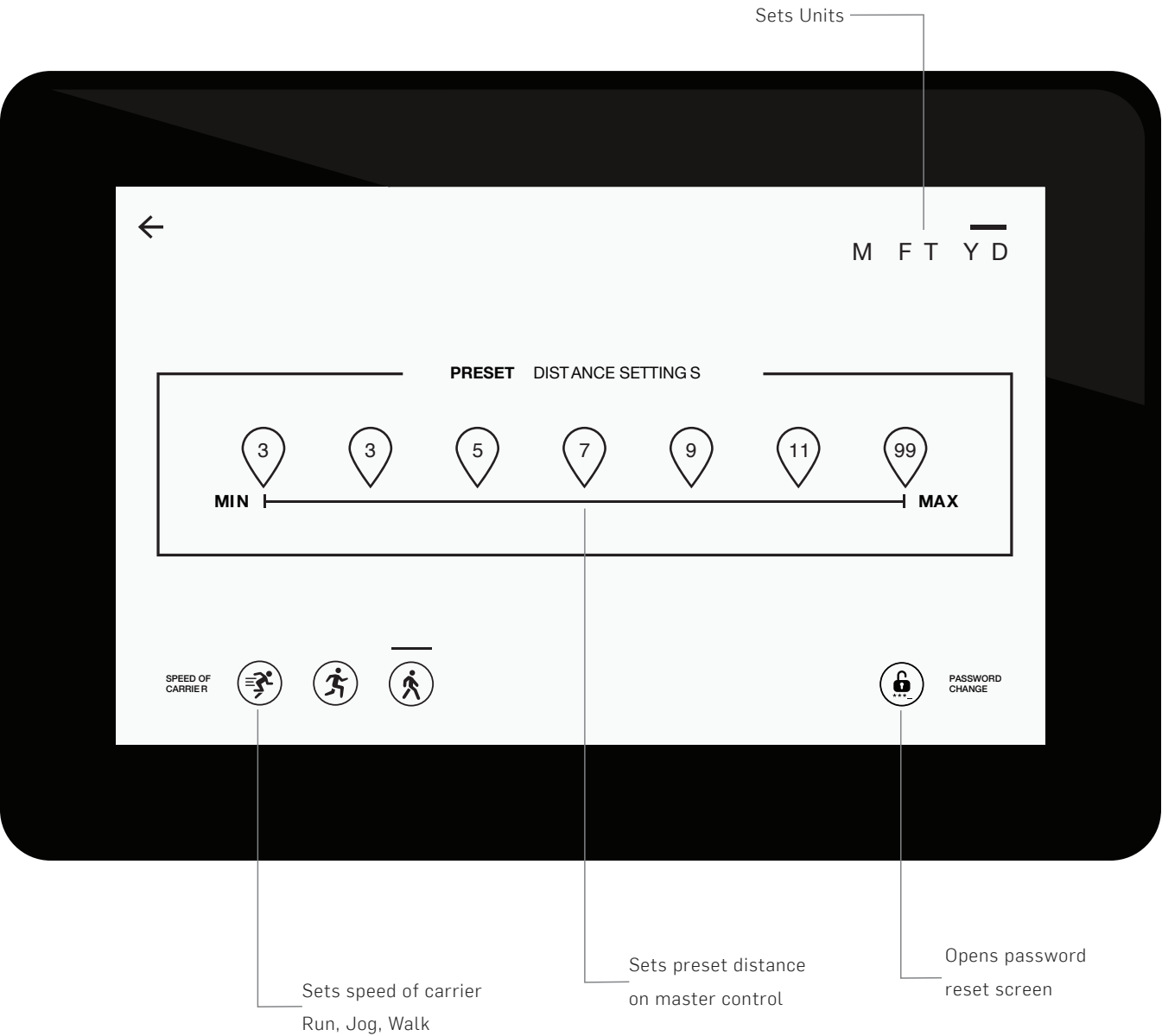


Key pad opens when selected
to preset custom distances



Opens Urban
Configuration screen
p. 38

Spire Installers
only



✕

30

ENTER VALUE

min 3

max 99

7 8 9

4 5 6

1 2 3

0 ✕ C

.

SAVE

MOBILE CONTROLS:

- [1] Download cMT Viewer App for the device.



Android



Apple



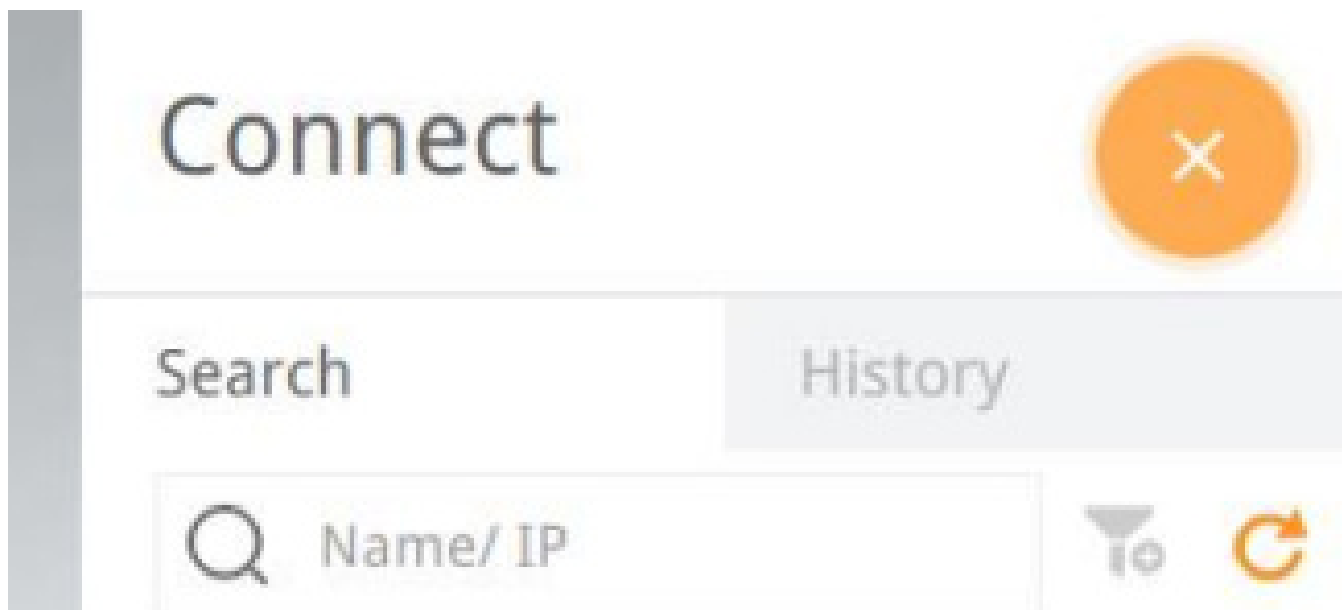
Windows

- [2] Connect to the range WiFi.

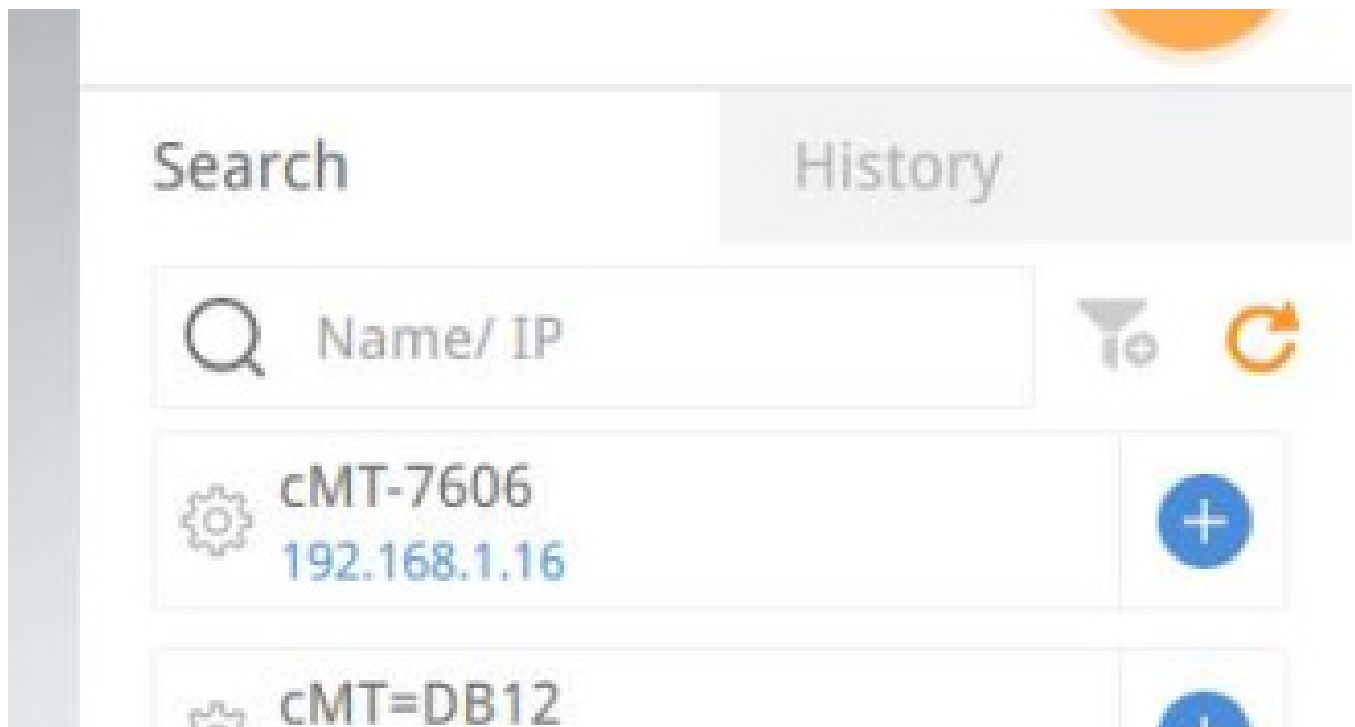
- WiFi: RangeAccess
- Password: spireranges

- [3] Open cMT Viewer.

- [4] Press the orange "+" at the top of the screen.



- [5] The program should appear. Generally it will have the address of 192.168.1.61. Press the "+" button to add the program. Password is 111111 (six 1's).
- If the program does not appear automatically, try pressing the orange reload button.
 - If it still does not appear, try typing 192.168.1.61 into the Name/IP field.
 - **Note:** Generally the IP address for your range will be 192.168.1.61 as mentioned above. But, some ranges are unique and will have a different address. This is especially common when there are multiple bays in your range and each bay has a different master control. In that case, try the following addresses:
 - Bay 1: 192.168.1.61
 - Bay 2: 192.168.1.62
 - Bay 3: 192.168.1.63
 - etc.
 - If those do not work, contact Spire.
 - **Note:** If the Master Control screen is not working, then the app will generally not work either. Generally the app gets its program from the master screen.



- [6] The Operations Screen should load if everything is working correctly.

URBAN COMPONENTS:

CODE	DESCRIPTION	PRT #	QTY
1	1/4"-20 X 1/4" BUTTON HEAD SCREW SS**	HBH-25020-25-SS	4
2	1/4"-20 X 5/8" BUTTOH HEAD SCREW SS**	HBH-25020-063-SS	8
3	1/4"-20 X 1-1/2" BUTTON HEAD SCREW SS	HBH-25020-150-SS	4
4	1/4"-20 X 2" BUTTOH HEAD SCREW SS	HBH-25020-200-SS	4
5	1/4" THRUST BEARING	HBR-2500-12	2
6	1/4"-20 X 1/16" CABLE GRIP**	HCG-25020-063	2
7	1/4" X 3/8" X 3/8" FLANGE BEARING - BRNZ	HFB-250375-375	2
8	1/4"-20 X 4" HEX BOLT SS	HHB-25020-400-SS	2
9	1/4"-20 NYLOCK NUT ZN	HLN-25020-005-ZN	9
10	1/4"-20 HEX NUT SS	HSN-25020-005-SS	2
11	1/4"-20 MF X 1/4" STAND-OFF ZN**	HSO-25020-050-ZN	4
12	.36 OD X .042 WD X 2.5 COMPRESSION SPRING	HSP-362742-250	2
13	1/4" X 1/2" X 1/2" SPACER ALUMINUM	HSW-250500-500AL	4
14	1/4"-20 X 1-1/4" THUMB SCREW BLACK-OXIDE	HTS-25020-125	1
15	.260 X .562 X .05 WASHER BR SS	HWS-260562-057SS	2
16	.267 X .500 X .057 FLAT WASHER SS	HWS-26750-057-SS	6
17	URBAN TARGET CLAMP BASE	URP-7123-021	1
18	URBAN CLAMP JAW	URP-7123-022	1

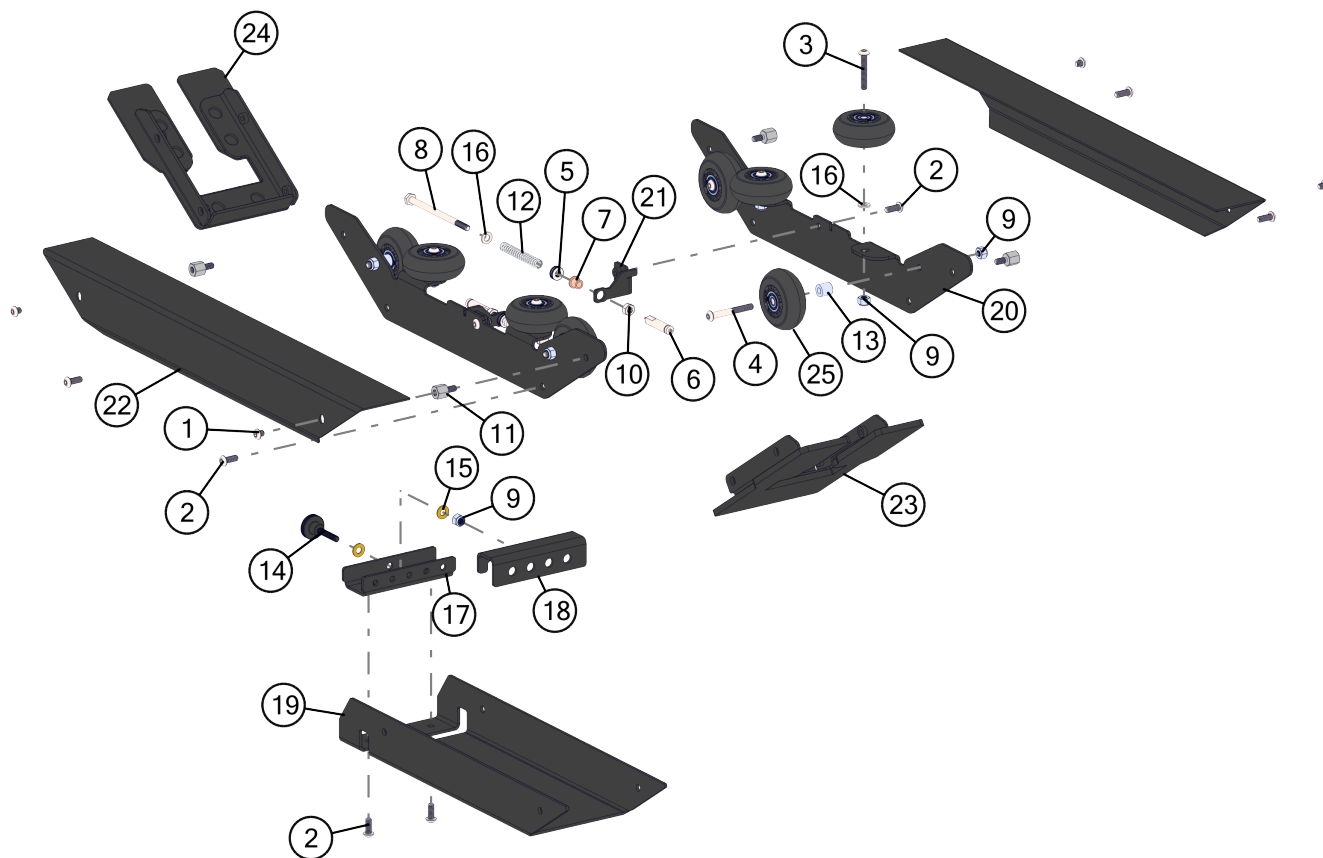
** Indicates recommended replacement parts. (See p. 67 for more information)
*** Indicated parts that are consumables and are not covered under the warranty agreement. In addition, any misuse, lack of maintenance, and/or modifications made to any Spire products will void all warranties.

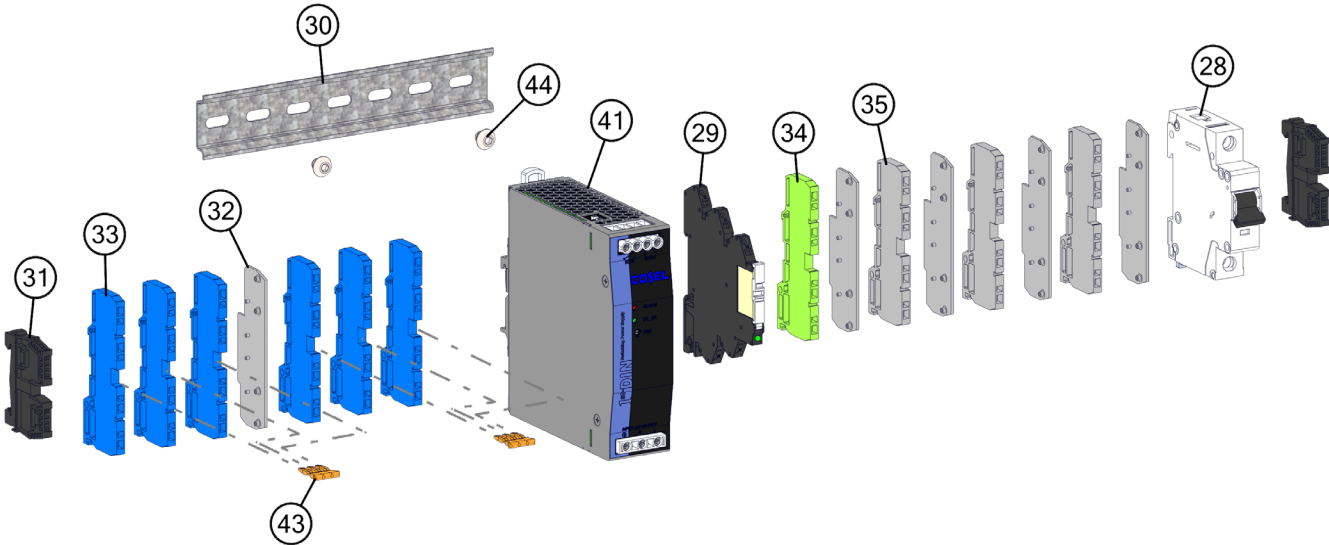
CODE	DESCRIPTION	PRT #	QTY
19	URBAN CARRIER BASE CHANNEL	URP-7123-051	1
20	URBAN WHEEL MOUNTING BRACKET	URP-7123-101	2
21	URBAN CABLE HARNESS BRACKET	URP-7123-115	2
22	URBAN CARRIER SIDE COVER	URP-7123-141	2
23	URBAN BALLISTIC FRONT WELDMENT	URW-7100-201	1
24	URBAN REAR STOP WELDMENT	URW-7100-202	1
25	ROLLER BLADE WHEEL ASSEMBLY	WHA-7010-001	8
26	.75 X .015 DOUBLE SIDED TAPE	DST-75001	2
27	1" X 1" NYLON WIRE TIE MOUNT	ELE-1010-WTM	2
28	5A 1 POLE CIRCUIT BREAKER- DIN RAIL MNT	ELE-2021-010	1
29	5A DIN RAIL RELAY	ELE-2022-010	1
30	35MM DIN RAIL	ELE-3001	2
31	TERMINAL BLOCK END STOP	ELE-3012-101	4
32	TERMINAL BLOCK END X4-GREY	ELE-3012-220	6
33	TERMINAL BLOCK X4-BLUE	ELE-3014-BLU	6
34	TERMINAL BLOCK X4 GROUND-GRN/YLW	ELE-3014-GRN-YLW	1
35	TERMINAL BLOCK X4-GREY	ELE-3014-GRY	3
36	7/8" PANLE HOLE PLUG	ELE-4001-088	4
37	3/8" NPT X 5-10 CABLE GLAND	ELE-4002-038	2
38	1/2" NPT X 6-12 CABLE GLAND	ELE-4002-050	1

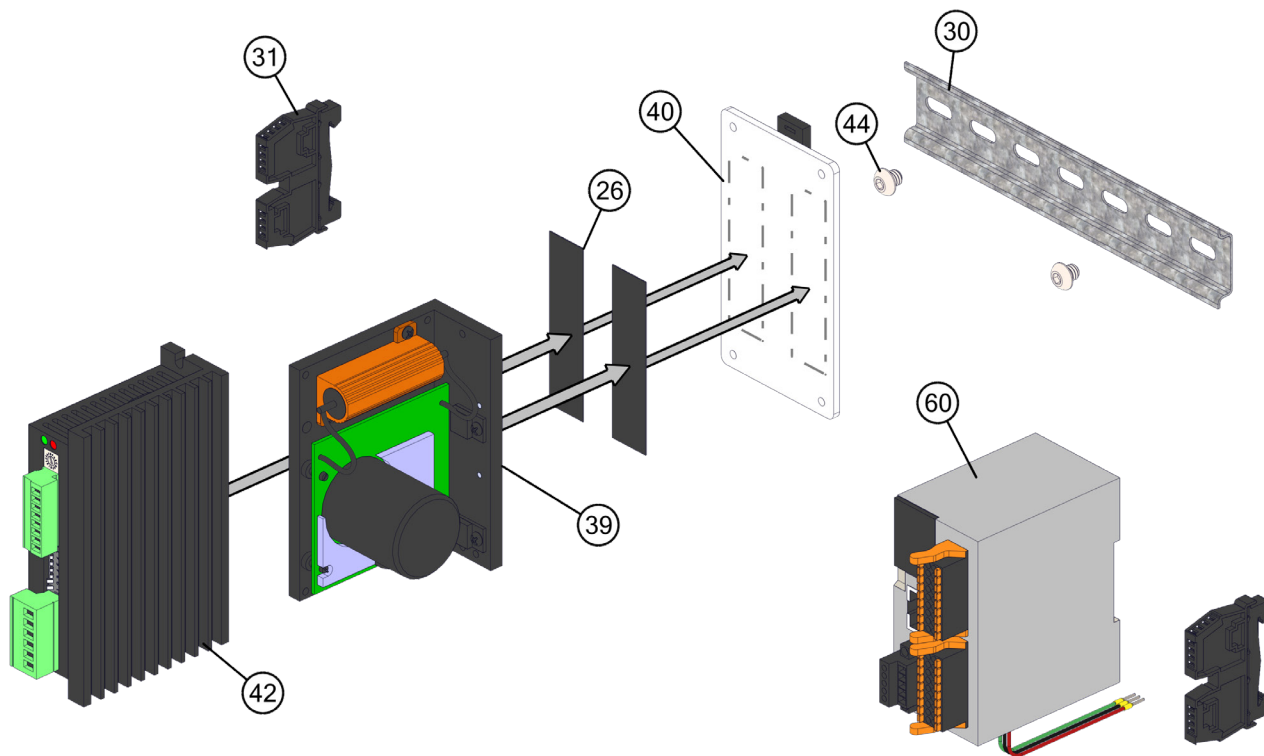
CODE	DESCRIPTION	PRT #	QTY
39	REGENERATION CLAMP 50 WATT**	ELE-6001-009	1
40	DIN RAIL MOUNT BRACKET	ELE-6001-011	1
41	24 VDC POWER SUPPLY-120W	ELE-6002-120	1
42	STEPPER MOTOR DRIVER**	ELE-76575-275	1
43	3 POLE TERMINAL BLOCK JUMPER	ELE-JMP-003	2
44	1/4"-20 X 1/4" BUTTON HEAD SCREW SS**	HBH-25020-025-SS	4
45	1/4"-20 X 5/8" BUTTON HEAD SCREW SS**	HBH-25020-063-SS	8
46	1/4"-20 X 3/4" BUTTON HEAD SCREW SS	HBH-25020-075-SS	4
47	1/2"-13 X 1" HEX BOLT ZN	HHB-50013-100-ZN	2
48	1/2" X 1" X .100 SEALING WASHER	HSL-500100-100ZR	2
49	1/4"-20 X 3/8" CUP SET SCREW SS	HSS-25020-038-SS	2
50	4"-18LB ZIP TIE SMALL	HZT-0625-040	3
51	LANE NUMBER PLATE BACKING DECAL	LNP-7031-201	1
52	URBAN DRIVE UNIT COVER	URP-7111-108	1
53	URBAN DRIVE PULLEY	UPR-7111-210	1
54	1/2"-13 CHANNEL STRUT NUT ZN	USN-50013-001ZN	2
55	TARGETRY 24V-240V POWER SWITCH	ELE-SWCH-240	1
56	URBAN PROX SENSOR ASSEMBLY**	URE-06035-PRX	2
57	URBAN DRIVE UNIT PWER CORD	URE-5810-120	1
58	URBAN MOTOR ASSEMBLY **	URE-34500-SNGL	1

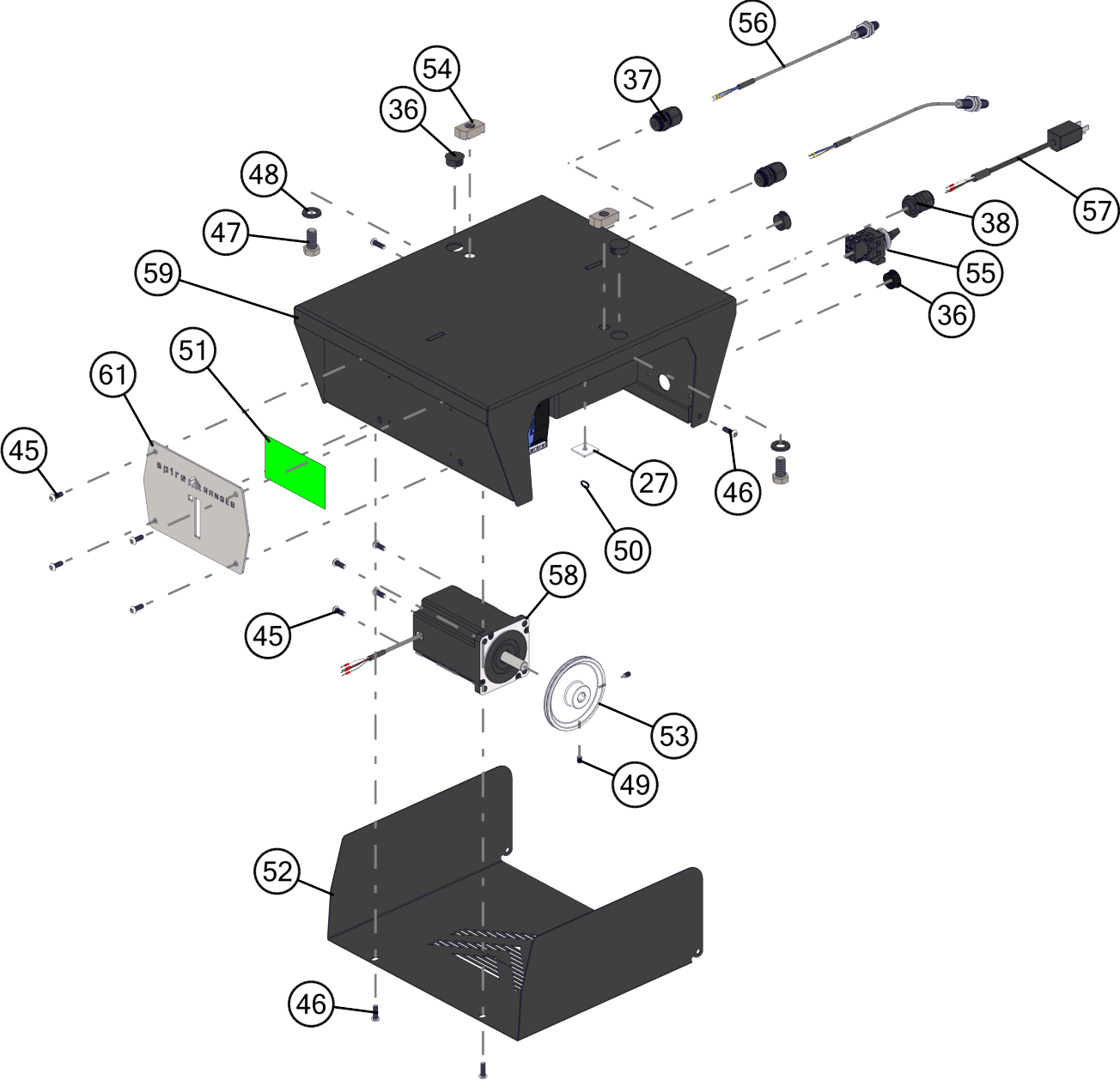
CODE	DESCRIPTION	PRT #	QTY
59	URBAN DRIVE UNIT WELDMENT	URW-7100-204	1
60	URBAN PLC ASSEMBLY**	URE-FX5UC-034	1
61	STALL LANE PLATE	LNP-7000-XXX	1
62	1/2"-13 X 1/14" BUTTON HEAD SCREW SS	HBH-50013-125-SS	1
63	1/2" X 1-1/8" X 3/8" 2RS BALL BEARING	HBR-1616-2RS	1
64	1/2"-13 THIN LOCK NUT-ZN	HLN-50013-001-ZN	1
65	1-1/8" X .050" INTERNAL SPIRAL RING	HSR-11305-050-PH	1
66	1/2" X 3/4" X 1/8" SHIM SS	HSW-50175-013-SS	2
67	1/4" ID X 3/4" OD X .06 FLAT WASHER ZN	HWS-250750-060ZN	2
68	URBAN RETURN PULLEY PLATE	URP-7124-002	1
69	URBAN RETURN PULLEY COVER	URP-7124-003	1
70	URBAN RETURN PULLEY	URP-7124-011	1
71	1/4"-20 X 1 1/4" HEX BOLT ZN	HHB-25020-125-ZN	6
72	1/2" X 1" X 1 1/4" DISC BUMPER	HRB-50098-012	6
73	**RECON/URBAN END STOP BRACKET LEFT***	TKP-7040-151	2
74	URBAN TRACK PROX SENSOR BRACKET	TKP-7040-151	2
75	10FT CAT5E PATCH CABLE	ELE-CAT5E-120	1
76	14/3 SJ00W CABLE	ELEWR-SJ00W-143	2
77	URBAN HMI POWER WIRING KIT	URE-HPWR-120	1
78	#6-32 HEX NUT ZN	HHN-00632-001-ZN	4

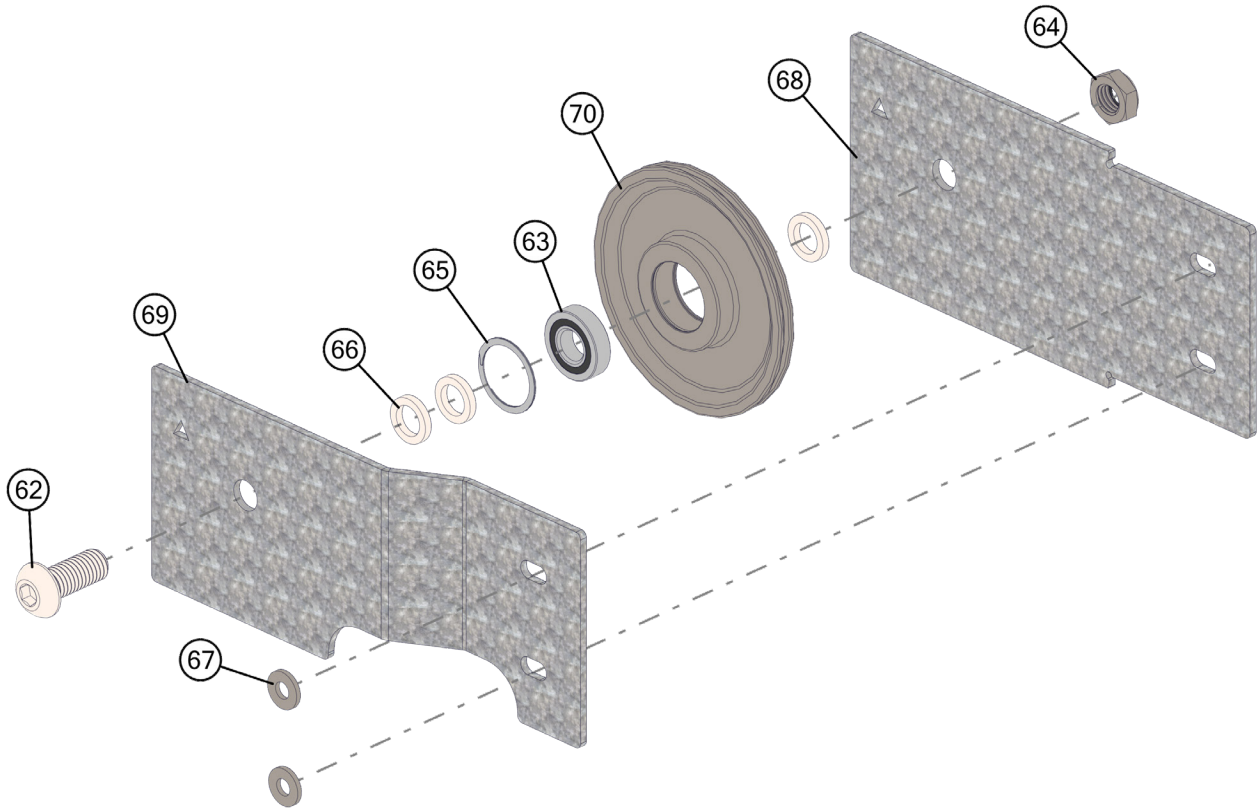
CODE	DESCRIPTION	PRT #	QTY
79	#6-32 X 3/8" SOCKET HEAD SCREW SS	HSH-0632-375-SS	4
80	URBAN TACTICAL BLUE LIGHT ASSEMBLY	URE-TACT-BLU	1
81	URBAN TACTICAL RED LIGHT ASSEMBLY	URE-TACT-RED	1

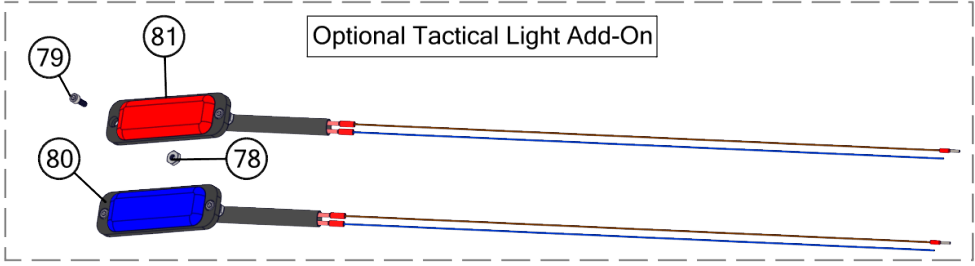
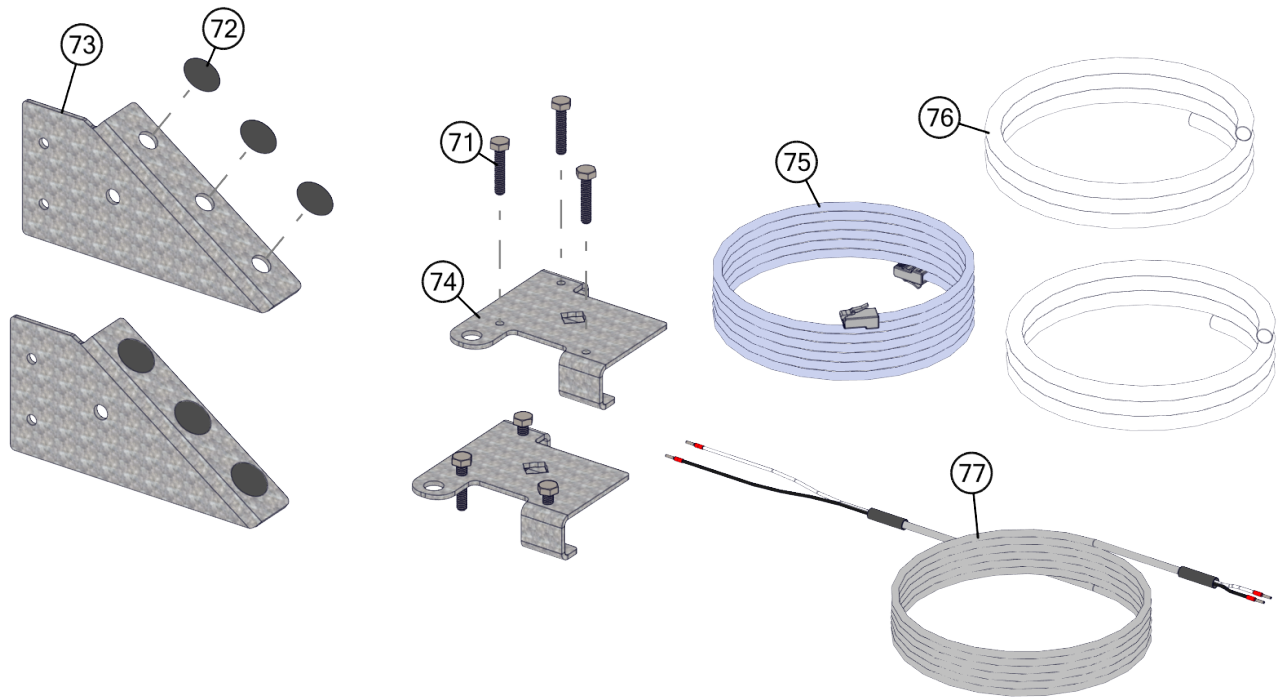












MAINTENANCE:

ROUTINE MAINTENANCE

TIME TABLE	PROCEDURE
Daily	1. Clear track above shooter of debris.
Weekly	1. Check cable tension. If loose, tighten. If damaged, replace. 2. Check track for damage. Repair or replace if needed.
Monthly	1. Check condition of each wheel. Replace if needed. 2. Check track bolts to ensure they are tight.

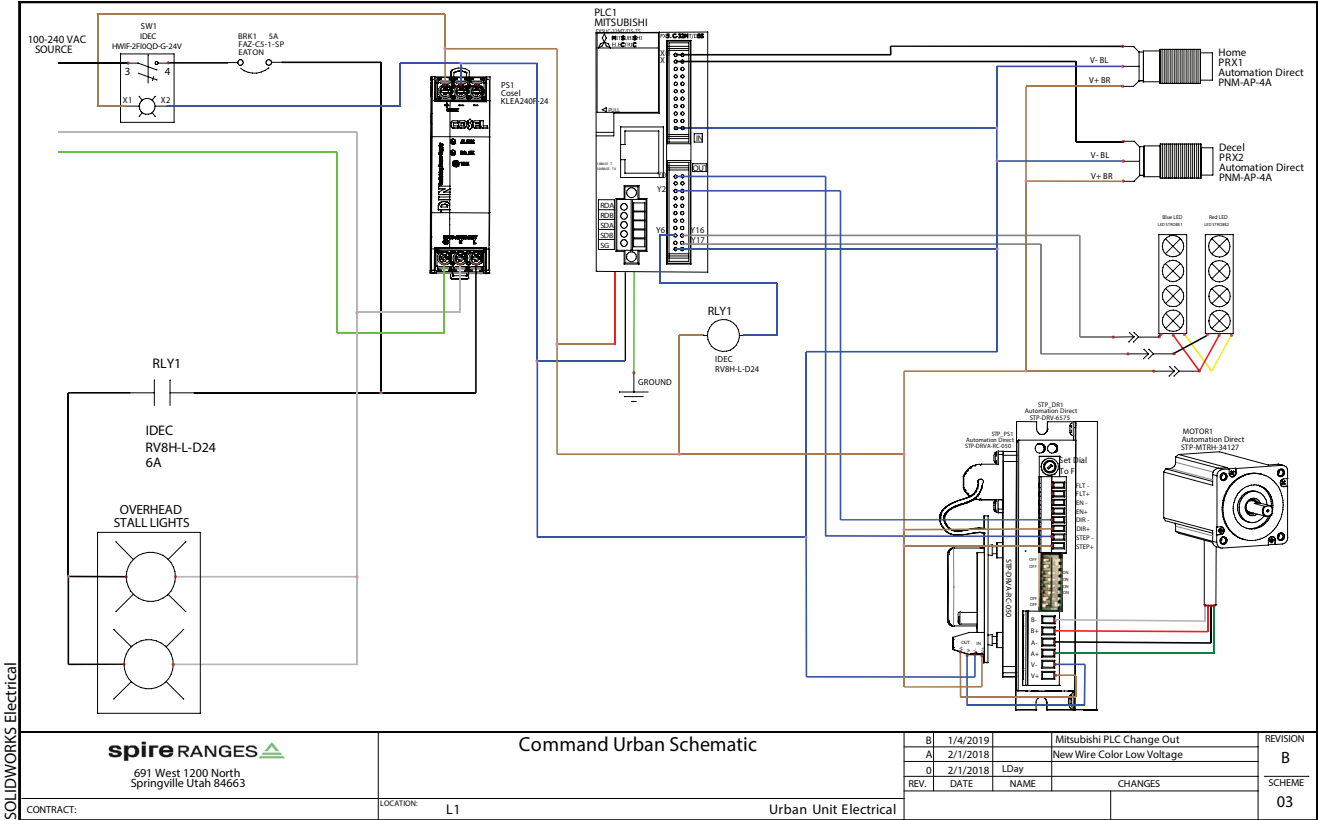
TOOLS

LIST OF TOOLS

- 5/32" Allen Wrench
- 1/8" Allen Wrench
- 5/16" Allen Wrench
- 5/16" Wrench
- 7/16" Wrench
- 1/2" Wrench
- 3/4" Wrench
- Medium Strength Blue Thread Locker
- Mini Flathead Screwdriver
- #2 Phillips Screwdriver
- Multimeter

SCHEMATICS

URBAN SCHEMATIC



RECOMMENDED REPLACEMENT PARTS

DESCRIPTION	PRT #	QTY
TRACK END STOP	TKA-7040-151	2
URBAN HOME SENSOR	URE-06035-PRX	1
URBAN DRIVING MOTOR	URM-34500-SNGL	1
500FT SPOOL OF CABLE	SAC-0116-500	1
TRACK HANGER BRACKET ASSEMBLY	TKA-7040-SRI	2
SELECTOR SWITCH	ELE-SWCH-240	2
URBAN RETURN PULLEY	URA-7100-102	1
URBAN REGEN CLAMP	ELE-6001-009	1
URBAN PLC***	ELE-6005-534	1
HARDWARE REPLACEMENT KIT (Below items are included in kit)	URBAN-HARDWARE-KIT	1
PULLEY SET SCREW	HSS-25020-038-SS	10
BODY STANDOFF	HSO-25020-060-ZN	5
CABLE GRIP	HCG-25020-063	3
BODY BUTTON SCREW - 1/4 IN	HBH-25020-025-SS	10
BODY BUTTON SCREW - 5/8 IN	HBH-25020-063-SS	15
TRACK BRACKETS HEX BOLT	HHB-25020-100-ZN	5
TRACK HEX BOLT	HHB-25020-050-ZN	20
TRACK NUT	HLN-25020-001-ZN	25

*** Indicates parts that will need to be programmed for a specific lane. It is recommended for them to be purchased and to remain on Spire shelves where they can be programmed to a specific lane as needed.

SERVICE PLANS:

OVERVIEW

At the core of Spire Ranges is our commitment to keep our installed equipment in each range running at its optimum performance. To maintain that standard, below is a list of the different service package levels available to our clients. We look forward to providing your range with a quote that is unique to your range.

LEVEL	TRIPS PER YEAR	PARTS DISCOUNT
Bronze	1	0%
Silver	2	5%
Gold	4	10%

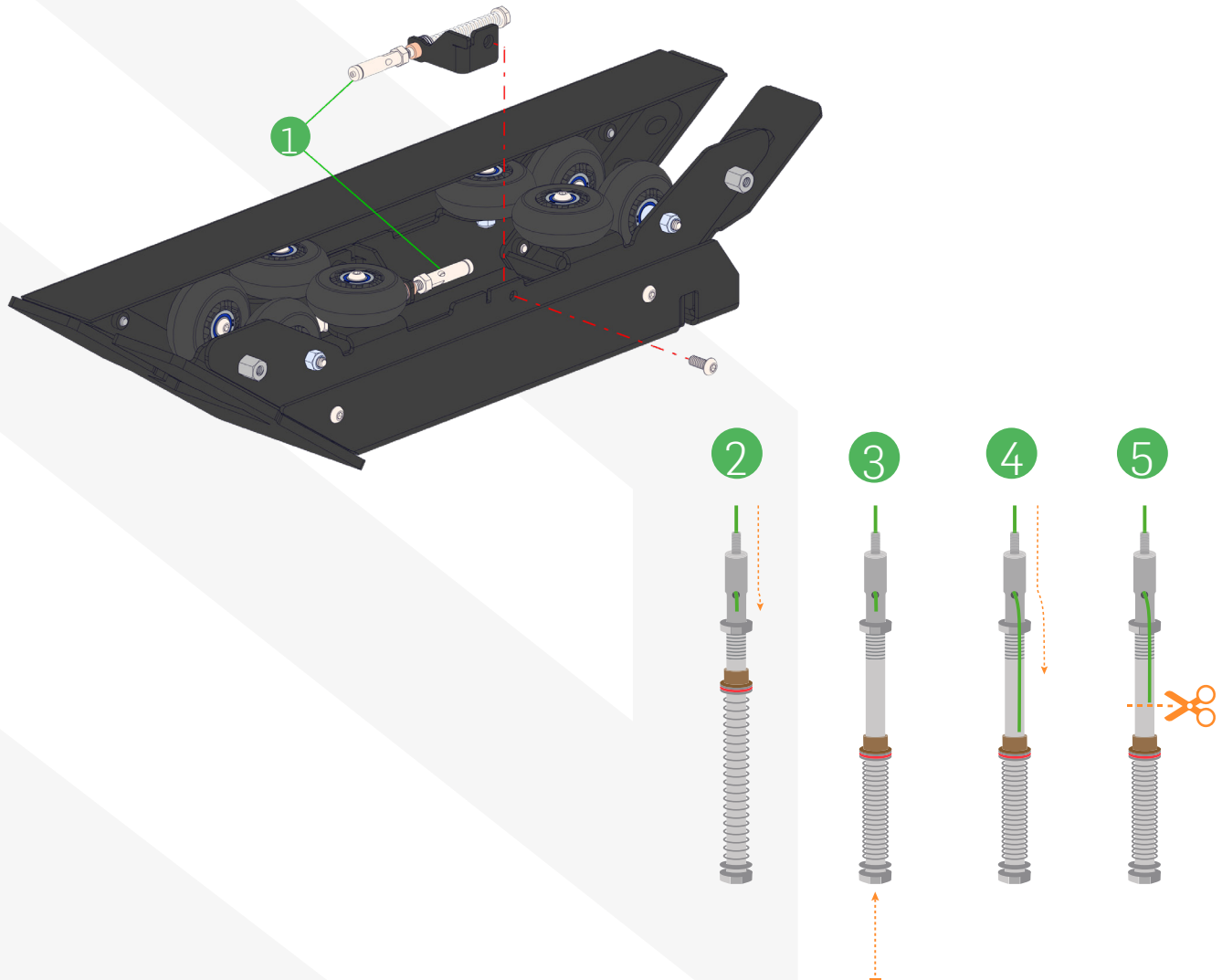
SERVICES OFFERED WITH EACH SITE VISIT:

- Provided Refresher Training
- Software Update/Reconfiguration
- Test all Motors, Valves, Cylinders, Lights, & Proximity Switches
- Target Clamp Inspection/Adjustment
- Check/Secure Electrical Connections
- Verify Proper Voltages
- Verify Controller(s) (HMI's/Computer) Functionality
- Assess Cable Tension & Adjust
- Assess Track Health & Tighten/Replace any Loose/Missing Hardware
- Verify Proper Charging of Targets
- Stall/Bench Inspection
- Trap Inspection
- Overall Range Health Inspection

TROUBLESHOOTING:

Occasionally the aircraft cable will need to be replaced. Reference guidelines below for the steps on how to replace the aircraft cable.

- Run the cable over the pulleys and through the center of any bracketing, bringing the cable to both cable grips on the carrier.
- Thread the cable through the opening of each cable grip and out the top hole.
- Tension the cable by compressing the spring bolt fully and pull the cable taut.
- Cut off excess cable, leaving approximately one inch of the cable extending from each cable grip to prevent the cable from unraveling.



Given below are possible causes and solutions for system problems. Within this section, you will find sequential steps that can be used to help troubleshoot a problem. If a problem persists after following these troubleshooting guidelines, please contact the Spire support team.

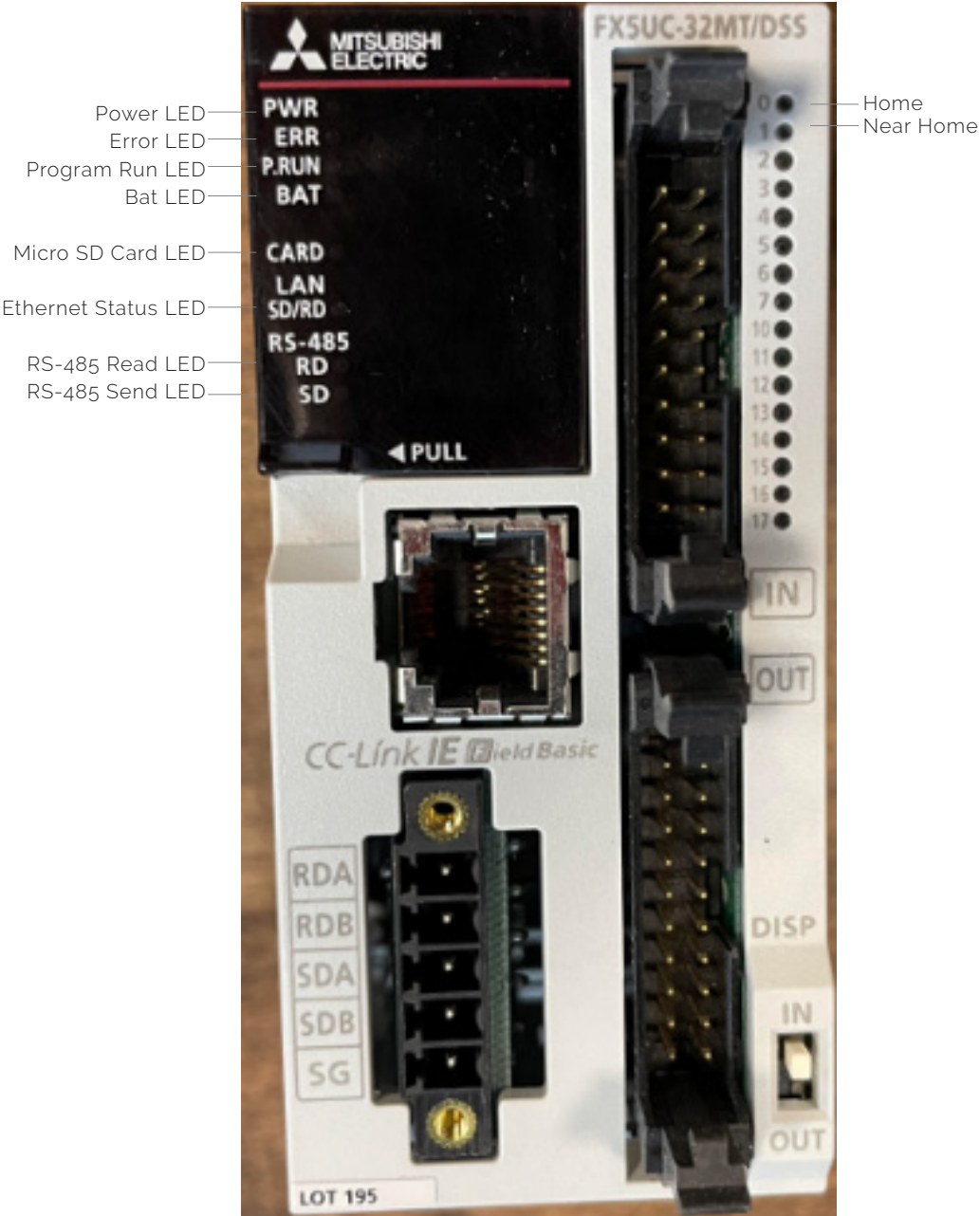
1.0 HMI TOUCH SCREENS (MASTER & LOCAL)

PROBLEM	POSSIBLE CAUSE	POSSIBLE SOLUTION
1.1 Dark Blank Screen	(1) Screen is in sleep mode	(1) Touch the screen to bring HMI out of sleep mode.
	(2) No power supplied to HMI	(1) Check the power supply connection. (2) If the 15" master, check the fuse on the back of the screen. (3) Check circuit breaker to see if tripped. (4) If problem persists, contact Spire for technical support.
1.2 Single Nonresponsive Button on Screen	(1) HMI screen error	(1) Check power supply to PLC. If PLC has power, cycle power to PLC. (2) If there is no indicator light for power to the PLC, check circuit breaker to see if tripped.
	(2) HMI calibration needed	(1) Power cycle the screen and (2) immediately touch the screen during startup. (3) Follow the on-screen prompts to calibrate.
	(3) HMI / PLC fault	(1) Contact Spire for technical support.
1.3 Entire HMI Touch Screen Nonresponsive	(1) HMI error	(1) Cycle power to HMI.
	(2) HMI / PLC fault	(2) Cycle power to the PLC.
1.4 Communication error	(1) Ethernet (RJ45) cable unplugged or damaged	(1) Check all RJ45 connections in control panel. (2) Check RJ45 connection to screen. (3) Follow cable to ensure they are not smashed or damaged.

2.0 URBAN TARGET UNITS

PROBLEM	POSSIBLE CAUSE	POSSIBLE SOLUTION
2.1 Carrier not moving to desired distance	(1) Insufficient drive cable tension	(1) Increase drive cable tension.
	(2) Drive cable has detached from pulleys	(1) Check drive and return pulley to ensure cable has not detached from pulleys. (2) Increase drive cable tension.
	(3) Drive cable interference	(1) Verify cable is resting on track properly. (2) Verify track is free from debris or damage. (3) Remove carrier covers to verify that there are no internal debris.
2.2 Grinding noise from carrier	(1) Debris on track or in carrier	(1) Verify track is free from debris. (2) Verify carrier internals are free from debris. (3) If debris are present, remove debris and run unit to verify correct functionality.
2.3 Carrier moving past home and running into end stop.	(1) Insufficient drive cable tension	(1) Increase drive cable tension. (2) Power off motor/drive box. (3) Move carrier back to home position (where the carrier is covering both homing sensors). (4) Power on motor/drive box.

PLC LED STATUS



PROBLEM	POSSIBLE CAUSE	POSSIBLE SOLUTION
6.0 No Green PWR (Power) Light	(1) Bad power cable connection/damaged cable	(1) Inspect the PLC power cable (red/black/green cable coming out of the bottom of the PLC) for damage. (2) Ensure that the PSU in the control box has power and that no breakers are flipped.
	(2) Bad PLC	(1) Contact Spire for a replacement PLC.
6.1 Steady/Flashing Orange ERR (Error) Light	(1) Communications with targets were lost	(1) Generally this is simply an alarm that there was a problem. If the targets are functioning correctly, then ignore the ERR light. This light will turn on every time the power off button on the HMI is used. (2) Check the cable connections on the affected target turner motors.
6.2 No Green P.RUN (Program Run) Light	(1) Program not running (switch in center Stop position)	(1) Move the switch under the black cover to the Reset position and hold for 5 seconds. Then move it back to Run position. (2) Ensure the switch is not in the center Stop position.
6.3 Flashing Green P.RUN (Program Run)	(1) Program paused/stopped (switch in center Stop position)	(1) See 6.2.
6.4 No Green LAN SD/RD (Ethernet Status) Light	(1) Bad/damaged ethernet cable	(1) Replace ethernet cable.
	(2) Bad/damaged ethernet switch	(1) Swap PLC ethernet cable to another port on the switch.
	(3) Bad PLC	(1) Contact Spire for a replacement PLC.

GLOSSARY:

TERM	DEFINITION
Calibration	Adjusting the various parts of the system precisely for their particular function.
Consumable Components	Products that are expected to wear out and that get used up throughout the lifetime of the product (will need to be replaced on a regular basis).
Course (of Fire)	The programmed set of actions for each shooting target.
Edge	The side of the shooting target (not face or back).
Error / Warning / Alarm	A minor problem with the system, but the system will still run.
Exposure Times	The amount of time the face (not the edge) will be positioned toward the shooter.
Fault	A major problem with the system. The system will not run.
HMI	A human-machine interface, which is a feature of any device that enables humans to engage and interact with machines. Common examples include touchscreens and keyboards.
Loctite	A brand of adhesives that is used to prevent loosening of metal fasteners caused by vibrations.
PLC	A programmable logic controller, which is a computer control system, that controls other devices based on various information available to it.
Range Master	The person in charge of any given session.
Stage	A step in the Course (of Fire).

SYMBOL	DEFINITION
	Power (On/Off).
	Ethernet LED. Will light steady when an active Ethernet connection is made and flash when there is activity.
	Signal Strength.
	Caution.
	Risk of Electrical Shock.
	Risk of Hot Surface.
	Grounding Point/Terminal.



THE PINNACLE OF SHOOTING RANGES™