SMARTconnect[™] Service Manual

Service Manual





Corporate Headquarters

10601 W Belmont Ave, Franklin Park, IL 60131 • U.S.A. 847.288.3300 • FAX: 847.288.3703 Service phone number: 800.351.3737 (toll-free within U.S.A., Canada) Global Website: www.lifefitness.com

International Offices

AMERICAS

North America

Life Fitness, LLC

10601 W Belmont Ave Franklin Park, IL 60131 U.S.A. Telephone: (847) 288 3300 Service Email: customersupport@lifefitness.com Sales/Marketing Email: commercialsales@lifefitness.com

Brazil

Life Fitness Brasil

Av. Rebouças, 2315 Pinheiros São Paulo, SP 05401-300 BRAZIL SAC: 0800 773 8282 option 2 Telephone: +55 (11) 3095 5200 option 2 Service Email: suportebr@lifefitness.com Sales/Marketing Email: vendasbr@lifefitness.com

Latin America and Caribbean*

Life Fitness, LLC

10601 W Belmont Ave Franklin Park, IL 60131 U.S.A. Telephone: (847) 288 3300 Service Email: customersupport@lifefitness.com Sales/Marketing Email: commercialsales@lifefitness.com

EUROPE, MIDDLE EAST, and AFRICA (EMEA)

Netherlands and Luxemburg

Life Fitness Atlantic BV

Bijdorpplein 25-31 2992 LB Barendrecht THE NETHERLANDS Telephone: (+31) 180 646 666 Service Email: service.benelux@lifefitness.com Sales/Marketing Email: marketing.benelux@lifefitness.com

United Kingdom

Life Fitness UK LTD

Queen Adelaide Ely, Cambs, CB7 4UB Telephone: General Office (+44) 1353.666017 Customer Support (+44) 1353.665507 Service Email: uk.support@lifefitness.com Sales/Marketing Email: life@lifefitness.com

Germany, Austria, and Switzerland

Life Fitness Europe GMBH

Neuhofweg 9 85716 Unterschleißheim GERMANY Telephone: +49 (0) 89 / 31775166 Germany +43 (0) 1 / 6157198 Austria +41 (0) 848 / 000901 Switzerland Service Email: kundendienst@lifefitness.com Sales/Marketing Email: vertrieb@lifefitness.com

Spain

Life Fitness IBERIA

C/Frederic Mompou 5,1°1ª 08960 Sant Just Desvern Barcelona SPAIN Telephone: (+34) 93.672.4660 Service Email: servicio.tecnico@lifefitness.com Sales/Marketing Email: info.iberia@lifefitness.com

Belgium

Life Fitness Benelux NV

Parc Industrial de Petit-Rechain 4800 Verviers BELGIUM Telephone: (+32) 87 300 942 Service Email: service.benelux@lifefitness.com Sales/Marketing Email: marketing.benelux@lifefitness.com

All Other EMEA Countries and Distributor Business EMEA*

Life Fitness Atlantic BV

Bijdorpplein 25-31 2992 LB Barendrecht THE NETHERLANDS Telephone: (+31) 180 646 644 Service Email: EMEAServiceSupport@lifefitness.com

ASIA PACIFIC (AP)

Japan

Life Fitness Japan, Ltd

4-17-33 Minami Aoyama 1F/B1F Minato-ku - Tokyo 107-0062 Japan Telephone: (+81) 0120.114.482 Fax: (+81) 03-5770-5059 Service Email: service.lfj@lifefitness.com Sales/Marketing Email: sales@lifefitnessjapan.com

Hong Kong

Life Fitness Asia Pacific LTD

32/F, Global Trade Square 21 Wong Chuk Hang Road Hong Kong Telephone: (+852) 2575.6262 Service Email: Service.HK@lifefitness.com Sales/Marketing Email: hongkong.sales@lifefitness.com

All Other Asia Pacific countries and distributor business Asia Pacific*

Life Fitness Asia Pacific LTD

32/F, Global Trade Square 21 Wong Chuk Hang Road Hong Kong Telephone: (+852) 2575.6262 Fax: (+852) 2575.6894 Service Email: Service.AP@lifefitness.com Sales/Marketing Email: Marketing.HK.Asia@lifefitness.com

*Also check www.lifefitness.com for local representation or distributor/dealer

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10601 W Belmont Ave, Franklin Park, IL 60131 • 847-288-3300

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1. Safety

Safety Instructions

Read all instructions before use.



CAUTION: Any changes or modifications to this equipment could void the product warranty.

WARNING: Health-related injuries may result from incorrect or excessive use of exercise equipment. Life Fitness Family of Brands STRONGLY recommends seeing a physician for a complete medical exam before undertaking an exercise program, particularly if the user has a family history of high blood pressure or heart disease, is over the age of 45, smokes, has high cholesterol, is obese, or has not exercised regularly in the past year. If, at any time while exercising, the user experiences faintness, dizziness, pain, or shortness of breath, he or she must stop immediately.

WARNING: To reduce the risk of burns, fire, electric shock, or injury, it is imperative to connect each product to a properly grounded electrical outlet.

WARNING: Heart rate monitoring systems may be inaccurate. Over exercising may result in serious injury or death. If you feel faint, stop exercising immediately.

WARNING: Keep batteries out of reach of children.

Some chest straps may contain a removable battery.

- Swallowing may lead to serious injury in as little as 2 hours or death, due to chemical burns and potential perforation of the esophagus.
- If you suspect your child has swallowed a battery, immediately call your local poison control for fast, expert advice.
- Examine devices and make sure the battery compartment is correctly secured, e.g. that the screw or other mechanical fastener is tightened. Do not use if compartment is not secure.
- Dispose of used button batteries immediately and safely. Flat batteries can still be dangerous.
- Tell others about the risk associated with button batteries and how to keep their children safe.

WARNING: Batteries may not be exploited to fire or get into contact with other metal objects. If you don't use the equipment for a longer period of time, remove batteries to avoid any damage by leaking or corroding batteries. If battery is depleted, insert new batteries into the equipment. If battery has leaked, remove all residue immediately. Avoid contact with eyes and if you come in contact with residue, wash thoroughly. **WARNING:** If rechargeable batteries are in use, they must be removed from the equipment for recharging. The

WARNING: If rechargeable batteries are in use, they must be removed from the equipment for charged battery must deliver 1.5 V output.

WARNING: Never use batteries other than D-Cell (LR-20) batteries. Do not use different battery types or depleted and new batteries together.

WARNING: Always insert batteries with correct polarity.

WARNING: Do not attempt to recharge non rechargeable batteries.

WARNING: Never short circuit battery connection terminals.

WARNING: Children shall not play with the training equipment.

WARNING: Cleaning and user maintenance shall not be made by children without supervision.

- Always follow the console instructions for proper operation.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory, or mental capabilities, or lack of experience or knowledge unless they have supervision or been given instruction concerning the use of the appliance by a person responsible for their safety.
- Do not use this product outdoors, near swimming pools or in areas of high humidity.
- Never operate the product with the air openings blocked. Keep air openings free of lint, hair, or any other obstructing material.
- Never place liquids of any type directly on the unit, except in an accessory tray or holder. Containers with lids are recommended.
- Do not use these products in bare feet. Always wear shoes. Wear shoes with rubber or high-traction soles. Do not use shoes with heels, leather soles, cleats or spikes. Make sure no stones are embedded in the soles.
- Keep all loose clothing, shoelaces, and towels away from moving parts.

- Do not reach into, or underneath, the unit or tip it on its side during operation.
- This equipment is not intended for use by children. Keep children under the age of 14 away from the machine.
- Do not allow other people to interfere in any way with the user or equipment during a workout.
- Allow LCD consoles to "normalize" with respect to temperature for one hour before plugging the unit in and using.
- Do not stand or sit on plastic shrouds.
- Read all warnings on each product prior to starting a workout.
- If warnings are missing or damaged, please contact Customer Support Services immediately for replacement warning labels. Warning labels are shipped with every product and should be installed before product is used. Life Fitness Family of Brands is not responsible for missing or damaged warning labels.

Disposing of Batteries

Batteries may not:

- Come into contact with fire.
- Come into contact with coins or other metallic objects.

Products or batteries labeled with this symbol may not be disposed of along with normal household refuse. For proper disposal, please find out about the applicable laws or guidelines on disposing of electrical devices and batteries in your local area and adhere to them.



Battery Levels

Use table to measure battery status.

| Voltage (V) | Condition |
|-------------|-----------|
| 6.0+ | New |
| 5.5-6.0 | Good |
| 5.0-5.5 | ОК |
| 4.5-5.0 | Low |
| 3.8-4.5 | Critical |
| <3.8 | Cutoff |

Recommended Replacement Batteries

Use table for Life Fitness recommended replacement batteries.

| Manufacturer | Model Number | Model Name | Service Life @10Ω Load Room Temp (hr) | Relative Rating |
|--------------|--------------|----------------------------|--|-----------------|
| Duracell | QU1300 | Quantum with Duralock | 123 | Good |
| Duracen | MN1300 | Coppertop with Duralock | 130 | Better |
| Enorgizor | EN95 | Industrial | 125 | Good |
| Lifergizer | E95 | Max | 125 | Good |
| Payoyac | 813 | High Energy | 124 | Good |
| Nayovac | 813FUS | Fusion | 130 | Better |
| | LR20EGE | Evolta | No Data | Best |
| Panasonic | LR20PPG | Pro Power | No Data | Better |
| i anasonic | LR20EPS | Everyday Power | No Data | Good |
| | LR20APB | Alkaline Power | No Data | ОК |

2. Introduction

Customer Support Contact Information

Refer to Corporate Headquarters for contact info.

To speed Customer Support Service's response, please provide the following information to the customer support technician:

- Serial number
- Model number
- Part name
- Part number
- Symptom of problem

Online References

Detailed Schematics are available online in Parts Manuals:

- https://www.lftechsupport.com access technical documentation and part manuals for Life Fitness, Hammer Strength, and ICG.
- http://www.lifefitness.com/parts service parts ordering for Life Fitness, Cybex, SCIFIT, Hammer Strength, and ICG products along with warranty parts ordering and technician requests.
- https://lfworld.lifefitness.com easy to find Knowledge Base articles with answers to frequently asked questions and product support documentation for Life Fitness, Cybex, SCIFIT, Hammer Strength, and ICG.

3. Maintenance Procedures

Maintenance Schedule

| ltem | Weekly | Monthly | Biannually |
|-----------------|--------|---------|------------|
| Batteries | | Inspect | |
| Console Display | Clean | | |
| Hardware | | | Inspect |

Approved and Compatible Cleaners

Two preferred cleaners have been approved by reliability experts: PureGreen 24 and Gym Wipes. Both cleaners will safely and effectively remove dirt, grime and sweat from equipment. PureGreen 24 and the Antibacterial Force formula of Gym Wipes are both disinfectants that are effective against MRSA and H1N1.

PureGreen 24 is available in a spray which is convenient to use. Apply the spray to a microfiber cloth and wipe down the equipment. Use PureGreen 24 on the equipment for at least 2 minutes for general disinfection purposes and at least 10 minutes for fungus and viral control.

Gym Wipes are large, durable pre-moistened wipes to use on the equipment before and after workouts. Use Gym Wipes on the equipment for at least 2 minutes for general disinfection purposes.

Contact Customer Support Services to order these cleaners (1-800-351-3737 or email: customersupport@lifefitness.com).

Mild soap and water or a mild non-abrasive household cleaner can also be used to clean the display and all exterior surfaces. Use a soft microfiber cloth only. Apply the cleaner to the microfiber cloth before cleaning. DO NOT use ammonia or acid based cleaners. DO NOT use abrasive cleaners. DO NOT use paper towels. DO NOT apply cleaners directly to the equipment surfaces.

4. Theory of Operation

Theory of Operation

Overview

SMARTconnect[™] allows exercisers to interact with Insignia Series selectorized strength equipment for an approachable, digitally-forward experience. SMARTconnect provides personalized guidance and insights for exercisers and a cordless, frictionless experience for operators.

5. Installation Process

Initial Setup

Steps to perform prior to installing SMARTconnect[™].

Sales Process

Site Survey: This is required and will need to be filled out (either by Sales or the Customer) <u>prior</u> to placing a SMARTconnect order, as the information gathered in this may impact what needs to be ordered.

Facility ID: The install team requires this ID to be able to complete the installation of a SMARTconnect system in a facility.

- ASBU: This will be captured directly on the quote and will be passed from the quote to the order.
- ISBU: Ensure FID is created consistently

Pre-install Checklist (verify before Installers go on-site)

- 1. Have the Facility ID and Subscription Number been created and made visible to the Install team via the Site Survey.
- 2. Has the site survey been completed and visibly attached to the Order notes for the Install team?
- 3. Have all components of the SMART connect install kit been delivered to and accounted for at the customer facility?
- 4. If additional WASPs are required, have those been ordered, delivered, and accounted for at the customer facility?
- 5. Does the install team have the required tools for a SMART connect install (may vary slightly across regions)?
 - Field calibration tool, part number 1018587-0001
 - Extra ethernet cable/POE+ (only needed if less than 100 feet between WASPs and ShapeSync)
 - Network switch (to be sourced locally)
 - 4/5G connection dongle (to be sourced locally)
 - WIFI router (to be sourced locally)
 - HDMI monitor (to be sourced locally)
 - Heart rate monitor (to be sourced locally)
 - Download LF Assist app and confirm login capability
 - Download WASP app from NPE
- 6. Has customer IT added the LF wireless SSID to the facility network?
 - If not, have they provided appropriate details around the SSID they would like to use?

In-facility Install Process

To install SMARTconnect in a facility, the technician will first need to enter the Facility ID into the LF Assist application. This can be found in the Site Survey. The site survey should be attached to the Order notes.

Insignia Setup

Before completing this step, all mechanical installation of Insignia SMARTconnect units should be complete.

Remove the pull-tab from the battery housing to allow the system to power on (allow 1-2 minutes). Once system is awake, technician should complete 3-5 reps at various weight settings to ensure machine is responsive, via proper rep counting and weight setting displayed on LCD.

Install WASP(s)

Each WASP need to be unpacked, mounted and plugged in to PoE.

- 1. Mount the WASPs over and around the strength area to ensure full coverage of data connectivity.
 - **a.** Each WASP should be mounted as high as possible in the ideal position (to cover the most machines), but at least 10 feet (3 meters) off the ground is best to ensure a minimum 30 foot (10 meters) radius. If unable to mount that high, assume that covered distance has decreased to a 15 foot (5 meters) radius.
 - b. If a WASP is mounted on a column, SMARTconnect units on the other side of the column should be covered by a second WASP. WASP coverage radius decreases if the signal needs to go through a wall or column. If WASP's are mounted on a column in the center of a strength area, then there should be one WASP on either side of the column to ensure proper coverage (pending size/layout of strength area). Use WASP Util app to verify, based on RSSI values.

2. Plug each WASP into a PoE or hybrid port on the PoE network switch. If distance to network switch is less than 100 feet (30 meters), use PoE+.



| ltem | Description |
|------|---------------|
| 1 | Ethernet Port |

3. Verify that WASP Ethernet LEDs are operating as expected (G1, G3, G4 are green, G2 dependent on facility). Verify that WASP Status LEDs are operating as expected (left LED (orange) should consistently flash. Right LED (red) should flash when system is installed and ANT activity is received).



| ltem | Description |
|------|---------------|
| 1 | Ethernet LEDs |
| 2 | Status LEDs |

- G1: Ethernet link good
- G2: Ethernet link speed (on = 100Mbs, off = 10Mbs)
- G3: Ethernet link activity
- G4: Power indicator
- Orange LED: Flashes every second to indicate PoE properly acquiring an IP address from the DHCP server on the network
- Red LED: Flashes when receiving ANT radio activity

NOTE: For additional details around WASP components and technology, please see the North Pole Engineering detailed Quick Start Guide here:

https://npe-inc.zendesk.com/hc/en-us/articles/360027027391-Quick-Start-Guide

- **4.** Optional: To measure the strength of the WASP signal(s) throughout the customer facility, follow the below instructions provided by North Pole Engineering by using a portable WIFI WASP:
 - a. Download the WASP Util application from the iOS app store: https://apps.apple.com/us/app/wasp-util/id966390978
 - **b.** Make sure the device running WASP Util is on the same network as the WASPs.
 - c. Open the WASP Util app.
 - **d.** Tap the sensors tab. In the sensors tab, all ANT+ sensors that are visible to the WASP will appear. If using a heart rate monitor, assuming it is on and active, it should appear in the heart rate sensors list.
 - e. Note the RSSI. The RSSI will be stronger when closer to the WASP and weaker the farther away the sensor is from the WASP. A stronger RSSI will be indicated by a smaller negative number. A weaker signal will be indicated by a larger negative RSSI number. As an example, an RSSI value of -20 is stronger than an RSSI value of -80. A good rule of thumb for installations is to make sure sensors the farthest away from the WASP have an RSSI no worse than -70 to -80. An ideal RSSI range for all sensors is -40 to -60 or better.
 - **f.** For each sensor location, move the portable sensor to the locations where the fixed sensors will be placed. Check the RSSI of the portable sensors in the WASP Util app noting values in a spreadsheet or similar data recording tool. Makes sure to take multiple readings to obtain a good average RSSI value.

SMARTsync Setup

As long as the SMARTsync is connected to the same network switch as the WASPs, there should be no distance constraint for setting up the SMARTsync relative to the WASPs.

1. Connect the SMARTsync via Ethernet cable to the same network switch as the WASPs and plus the power cord into a power source.



| ltem | Description | Qty. |
|------|----------------|------|
| 1 | USB Type C | 2 |
| 2 | USB Type A | 3 |
| 3 | Audio Out | 1 |
| 4 | Power/Reset | 1 |
| 5 | Power Input | 1 |
| 6 | HDMI Input | 1 |
| 7 | Ethernet Input | 1 |

- 2. Optional: Plug in an HDMI display to the SMARTsync. A display is only needed to display any local WASP/ANT devices, or to view the current status of the SMARTsync. No keyboard/mouse input available.
- **3.** The SMARTsync should display a momentary red LED followed by a blue LED, indicating that it is starting up. This process takes approximately 1-2 minutes.
- 4. Optional: If attached to a display, the screen will show console lines scrolling during boot. Once the SMARTsync is fully booted and running, the attached display will show the SMARTsync registration code, as well as the status of the SMARTsync and the connected WASPs, ANT Device Type 99 are SMARTconnect units (high device numbers (~5 digits) are not configured). If the WASP Title shows a MAC address, it likely not properly configured.

Verify WIFI Setup

The Life Fitness SMARTconnect system must have the WIFI Network Credentials set up with a specific SSID and password in order for LFconnect to communicate with the WIFI network. The SMARTconnect system has the WIFI

Credentials hard coded into the WIFI Module/Network Interface Card (NIC). The Site must add LFwireless SSID to their network.

Required Action of the Installer: Verify that the facility has successfully added the LFwireless SSID to their network. To do this, verify that the 'WIFI Not Connected' indicator on LCD screen is not visible.

If the facility has not added this SSID to their network, installer should reach out to the account manager/sales representative responsible for this customer to coordinate with the customer's network administrator.

SMARTsync Registration

Use the QR code reader to register the SMARTsync via the QR code found on the SMARTsync.

Machine Verification

As long as the SMARTsync is connected to the same network switch as the WASPs, there should be no distance constraint for setting up the SMARTsync relative to the WASPs.

- 1. Click 'Verify' on the LF Assist home screen after steps 1-5 are completed.
- 2. Select the machine to verify by clicking Verify' next to that machine's name.
- 3. Select the appropriate unit of measure (Imperial or Metric)
- 4. Scan the QR code on the LCD of the machine using the QR code reader built into the application
- 5. Complete the required number of reps at the weight setting indicated.
- 6. Click 'Done' when repetitions completed.
- 7. If the machine is verified successfully, click 'End Verification'.
- 8. If the machine is not verified successfully, click 'Calibrate' and begin calibrating.

Machine Calibration

Complete the machine calibration process for those new SMARTconnect units that are not properly verified, or any retrofit units installed in the facility.

- 1. Select the machine to be calibrated (either using 'Calibration' tile on home screen, or directly from Machine Verification in step 6.
- 2. Select proper unit of measure on Calibration setup screen and adjust the max weight setting if required.
- 3. Press 'Begin Calibration'.
- 4. Mount the WASPs over and around the strength area to ensure full coverage of data connectivity.
 - a. Using an appropriate tool (i.e. cell-phone SIM release tool, paperclip), gently press the 'Config Enable' button located on the downward (weight stack facing) face of the Guide Rod Retainer/SMARTconnect Sensor Housing. You should get a slight confirming feel when the button is pressed properly.
 - **b.** While holding the 'Config Enable' button down, use a similar too to press-then-release the 'System Reset' button located on the downward (weight stack facing) face of the Guide Rod Retainer/SMARTconnect Sensor Housing. Continue to hold the 'Config Enable' button for two seconds after releasing the 'System Reset' button, then release the 'Config Enable' button.
 - **c.** The LCD should display three numbers arranged vertically in the upper are of the LCD, and three letters, or numbers, in the bottom region of the LCD. They should disappear after several seconds.
 - **d.** The system is now in 'Config Mode' and will accept configuration data over the Bluetooth connection.
- 5. When the machine has been placed in 'Config Mode', user will be able to automatically redirected to the next screen.
- 6. Adjust the pre-set weight to the closest weight setting if pre-set weight is not available.
- 7. Check the 'Field Calibration Tool In Use' box if the field calibration tool is used at this weight setting.
- 8. Press 'Begin Step'.
- 9. Lift and hold the weight until the application indicates 'Done'.
- **10.** Repeat steps 6-10 above for the six calibration weights as determined by the application.
- **11.** Press 'Save'.

- **12.** Mount the WASPs over and around the strength area to ensure full coverage of data connectivity.
 - **a.** Using an appropriate tool (i.e. cell-phone SIM release tool, paperclip), gently press the 'Config Enable' button located on the downward (weight stack facing) face of the Guide Rod Retainer/SMARTconnect Sensor Housing. You should get a slight confirming feel when the button is pressed properly.
 - **b.** The LCD should display three numbers arranged vertically in the upper are of the LCD, and three letters, or numbers, in the bottom region of the LCD. They should disappear after several seconds.
 - c. The system is now in 'Normal Mode'.

13. When the system has been placed back in 'Normal Mode', user will be automatically redirected to the next screen.

14. Confirm calibration was successfully recorded and move to the next machine.

15. If calibration data was not successfully recorded, re-try full calibration procedure for this machine.

Post-Installation Checklist

Installation complete criteria.

- All units visible and connected within LF Assist
- All units either verified or calibrated with field calibration tool
- All units displaying no service indicators on the LCD display (battery level, WIFI connectivity, service required)

If any of these items are not complete, proceed with standard Service troubleshooting process.

6. Getting Connected Guide

Bandwidth Requirements

Minimum bandwidth required for SMARTconnect[™] is 10 Mbps. This does not vary based on numbers of units installed.

Power Requirements

- **SMARTconnect Insignia Units:** These run on battery power (4 D batteries) and do not require power from the facility.
- **SMARTsync:** This will require facility power via the relevant cord (see table), purchased by customer.

| Life Fitness Part Number | Description |
|--------------------------|--|
| 1019820-0001 | LINE-CORD: 18AWG, IEC320 C5, 6FT/1.8M, USA PLUG NEMA 5-15P |
| 1019820-0002 | LINE-CORD: 18AWG, IEC320 C5, 6FT/1.8M, EU PLUG CEE 7/7 |
| 1019820-0003 | LINE-CORD: 18AWG, IEC320 C5, 6FT/1.8M, UK PLUG BS-1363 |
| 1019820-0004 | LINE-CORD: 18AWG, IEC320 C5, 6FT/1.8M, AU PLUG AS 3112 |

• **WASPs**: These will be powered over Ethernet (PoE) via PoE cables running from WASP to network switch.

Network Setup

Network and Equipment Setup with Internet



Network and Equipment Setup without Internet



WASP Setup and Coverage

WASPs will need to positioned at the highest accessible point and where they can provide effective coverage of the strength area.



WASP Coverage Distance:

Between 10 feet (3 meters) and 30 feet (9 meters) above ground is best. When outside this range, WASP range begins to decline.

- Radius of 80 feet (24 meters) when installed on a ceiling at least 13 feet (4 meters) above the ground.
- Radius of 60 feet (18 meters) when installed on a wall at a height at least 10 feet (3 meters) above the ground.

WASP Calculator

Please refer to the WASP Calculator to determine the number of WASPs necessary, given are of strength area, height of WASPs and WASP position.

WASPs Needed:

| Description | Metric Qty. | Imperial Qty. |
|----------------------------------|-------------|---------------|
| WASPs Needed for All Rooms/Areas | 6 | 8 |

Room/Area 1

| Description | Metric Qty. | Imperial Qty. |
|-----------------------------|--------------------|-------------------|
| Amount of Insignia Units | 30 | 30 |
| All Products Length | 24 meters | 80 feet |
| All Products Width | 48 meters | 160 feet |
| WASP Height | 3 meters | 10 feet |
| WASP Position | Wall | Wall |
| 1 WASP Covers (diameter) | 18 meters | 60 feet |
| Insignia Products Surface | 1152 square meters | 12800 square feet |
| WASPs Needed in Room/Area 1 | 4 | 4 |

Room/Area 2

| Description | Metric Qty. | Imperial Qty. |
|-----------------------------|-------------------|------------------|
| Amount of Insignia Units | 10 | 10 |
| All Products Length | 24 meters | 80 feet |
| All Products Width | 24 meters | 80 feet |
| WASP Height | 4 meters | 13 feet |
| WASP Position | Ceiling | Ceiling |
| 1 WASP Covers (diameter) | 24 meters | 80 feet |
| Insignia Products Surface | 576 square meters | 6400 square feet |
| WASPs Needed in Room/Area 2 | 1 | 1 |

Room/Area 3

| Description | Metric Qty. | Imperial Qty. |
|-----------------------------|-------------------|------------------|
| Amount of Insignia Units | 5 | 5 |
| All Products Length | 10 meters | 32 feet |
| All Products Width | 10 meters | 32 feet |
| WASP Height | 4 meters | 13 feet |
| WASP Position | Ceiling | Ceiling |
| 1 WASP Covers (diameter) | 24 meters | 80 feet |
| Insignia Products Surface | 100 square meters | 1024 square feet |
| WASPs Needed in Room/Area 3 | 1 | 1 |

Pre-Installation Checklist

Tasks to be completed prior to SMARTconnect[™] installation:

- 1. SMARTconnect Site Survey competed?
- 2. LFwireless SSID added to facility network? Or have separate SSID details been provided by LF?
- 3. All SMARTconnect units and facility hardware ordered?
- **4.** Additional WASPs ordered as necessary?
- 5. WASP access points wired with PoE cables? (May vary based on region)
- 6. Network meets bandwidth requirements?
- 7. Facility ID and subscription number set up?

Calibrate Console

Introduction

This instruction sheet describes how to calibrate the SMARTconnect[™] console using the cable actuator tool:

Contents:

- 3/8" Drill or 1/2" Drill
- 5/16" Socket or 8 mm Socket
- 3/8" Drive socket extension
- Cable Actuator (part number: 1018587-0001)

WARNING: Moving Rotary Parts

Do not use cable actuator tool with long hair or loose fitting clothing.

WARNING: Moving Parts

Do not place hands or fingers under suspended weights.



| | Description | Qty. |
|---|---------------------|------|
| 1 | Cable Actuator Tool | 1 |

Calibration Points (pounds)

Use below table to determine the three calibration points for each Insignia model, per weight stack option; Base [P], Light [C] or Heavy [X].



| Model | Description | 1st Calibration Point | 2nd Calibration Point | | 3rd Calibration Point | |
|--------|---------------------------|--------------------------|--------------------------|-----|--------------------------|-----|
| | | P, C and X | P & C | X | P&C | Х |
| IS-AB | Abdominal | 25 | 100 | 115 | 130 | 160 |
| IS-ADC | Assist Dip/Chin | 25 | 100 | 115 | 130 | 160 |
| IS-BC | Biceps Curl | 25 | 100 | 115 | 130 | 160 |
| IS-BCD | Biceps Curl Dependent | 25 | 100 | 115 | 130 | 160 |
| IS-BE | Back Extension | 25 | 145 | 175 | 205 | 250 |
| IS-CE | Calf Extension | 25 | 175 | 220 | 165 | 310 |
| IS-CP | Chest Press | 25 | 145 | 175 | 205 | 250 |
| IS-FLY | Pectoral Fly/Rear Deltoid | 25 | 145 | 175 | 205 | 250 |
| IS-GL | Glute | 25 | 100 | 115 | 130 | 160 |
| IS-GLD | Glute Drive | 25 | 145 | 175 | 205 | 250 |
| IS-HAA | Hip Abduction/Adduction | 25 | 145 | 175 | 205 | 250 |
| IS-HAB | Hip Abduction | 25 | 145 | 175 | 205 | 250 |
| IS-HAD | Hip Adduction | 25 | 145 | 175 | 205 | 250 |
| IS-LC | Leg Curl | 25 | 100 | 115 | 130 | 160 |
| IS-LE | Leg Extension | 25 | 145 | 175 | 205 | 250 |
| IS-LR | Lateral Raise | 25 | 100 | 115 | 130 | 160 |
| IS-PD | Pulldown | 25 | 145 | 175 | 205 | 250 |
| IS-PEC | Pectoral Fly | 25 | 145 | 175 | 205 | 250 |
| IS-RW | Row | 25 | 145 | 175 | 205 | 250 |
| IS-SLC | Seated Leg Curl | 25 | 145 | 175 | 205 | 250 |
| IS-SLP | Seated Leg Press | 25 | 175 | 220 | 265 | 310 |
| IS-SP | Shoulder Press | 25 | 100 | 115 | 130 | 160 |
| IS-TE | Triceps Extension | 25 | 100 | 115 | 130 | 160 |
| IS-TP | Triceps Press | 25 | 145 | 175 | 205 | 250 |
| IS-TR | Torso Rotation | 25 | 100 | 115 | 130 | 160 |

Calibration Points (kilograms)

Use below table to determine the three calibration points for each Insignia model, per weight stack option; Base [P], Light [C] or Heavy [X].



| Model | Description | 1st Calibration Point | 2nd Calibration Point | | 3rd Calibration Point | |
|--------|---------------------------|--------------------------|--------------------------|------|--------------------------|------|
| | | P, C and X | P & C | X | P&C | Х |
| IS-AB | Abdominal | 12.5 | 50 | 57.5 | 65 | 80 |
| IS-ADC | Assist Dip/Chin | 12.5 | 50 | 57.5 | 65 | 80 |
| IS-BC | Biceps Curl | 12.5 | 50 | 57.5 | 65 | 80 |
| IS-BCD | Biceps Curl Dependent | 12.5 | 50 | 57.5 | 65 | 80 |
| IS-BE | Back Extension | 12.5 | 72.5 | 87.5 | 102.5 | 125 |
| IS-CE | Calf Extension | 12.5 | 87.5 | 110 | 132.5 | 155 |
| IS-CP | Chest Press | 12.5 | 72.5 | 87.5 | 102.5 | 125 |
| IS-FLY | Pectoral Fly/Rear Deltoid | 12.5 | 72.5 | 87.5 | 102.5 | 125 |
| IS-GL | Glute | 12.5 | 50 | 57.5 | 65 | 80 |
| IS-GLD | Glute Drive | 12.5 | 72.5 | 87.5 | 102.5 | 12.5 |
| IS-HAA | Hip Abduction/Adduction | 12.5 | 72.5 | 87.5 | 102.5 | 12.5 |
| IS-HAB | Hip Abduction | 12.5 | 72.5 | 87.5 | 102.5 | 125 |
| IS-HAD | Hip Adduction | 12.5 | 72.5 | 87.5 | 102.5 | 125 |
| IS-LC | Leg Curl | 12.5 | 50 | 57.5 | 65 | 80 |
| IS-LE | Leg Extension | 12.5 | 72.5 | 87.5 | 102.5 | 125 |
| IS-LR | Lateral Raise | 12.5 | 50 | 57.5 | 65 | 80 |
| IS-PD | Pulldown | 12.5 | 72.5 | 87.5 | 102.5 | 125 |
| IS-PEC | Pectoral Fly | 12.5 | 72.5 | 87.5 | 102.5 | 125 |
| IS-RW | Row | 12.5 | 72.5 | 87.5 | 102.5 | 125 |
| IS-SLC | Seated Leg Curl | 12.5 | 72.5 | 87.5 | 102.5 | 125 |
| IS-SLP | Seated Leg Press | 12.5 | 87.5 | 110 | 132.5 | 155 |
| IS-SP | Shoulder Press | 12.5 | 50 | 57.5 | 65 | 80 |
| IS-TE | Triceps Extension | 12.5 | 50 | 57.5 | 65 | 80 |
| IS-TP | Triceps Press | 12.5 | 72.5 | 87.5 | 102.5 | 125 |
| IS-TR | Torso Rotation | 12.5 | 72.5 | 87.5 | 65 | 80 |

Calibrate Console

Calibrate Lynx Console:

1. Insert weight stack pin into bottom plate of the weight stack.



| ltem | Description | Qty. |
|------|------------------|------|
| 1 | Weight Stack | 1 |
| 2 | Weight Stack Pin | 1 |

2. Assemble cable actuator.



| ltem | Description | Qty. |
|------|------------------------|------|
| 1 | Cable Actuator Tool | 1 |
| 2 | 5/16" or 8mm Socket | 1 |
| 3 | Drive socket extension | 1 |
| 4 | Drill | 1 |

3. Loosen drill until cable actuator is fully open.



| ltem | Description | Qty. |
|------|---------------------|------|
| 1 | Cable Actuator Tool | 1 |
| 2 | 3/8" Drive Drill | 1 |

4. Excluding the Insignia Pectoral Fly (PEC), Fly (FLY) and Glute (GL), insert the cable actuator/drill between the front shrouds and position the cable above the weight stack into the cable actuator.



| ltem | Description | Qty. |
|------|----------------------|------|
| 1 | Cable Actuator/Drill | 1 |
| 2 | Cable | 1 |

NOTE: Cable actuator can be placed onto any point of exposed cable large enough.

5. Tighten drill so fully pinned weight stack lifts from base of unit.



| ltem | Description | Qty. |
|------|----------------------|------|
| 1 | Cable Actuator/Drill | 1 |
| 2 | Cable | 1 |

NOTE: Limit lifts to 1/4" (6.35mm) in height.

6. With the weight stack still fully pinned, raise and lower weight stack two additional times, 3 total.



| ltem | Description | Qty. |
|------|--------------|------|
| 1 | Weight stack | 1 |

NOTE: If drill is under powered, a wrench can be used to operate the cable actuator tool.

7. Pin first calibration point: refer to Calibration Points table.



| ltem | Description | Qty. |
|------|------------------|------|
| 1 | Weight Stack | 1 |
| 2 | Weight Stack Pin | 1 |

8. Using the cable actuator tool/drill, raise first calibration point.



| ltem | Description | Qty. |
|------|-----------------------|------|
| 1 | 1st Calibration Point | 1 |
| 2 | Weight Stack Pin | 1 |

9. Download the LF Assist app and log in into account.



10. From the Home screen, go to Calibrations and select the desired unit for calibration.



11. Follow the Calibration Setup steps from the LF Assist app.



12. Calibration Saved prompt will appear if setup successfully complete.



13. If unsuccessful, a Fault prompt will appear displaying the error and resolution.



14. If problem persists, go to the Troubleshoot section.

| Cross Roubleshoot | |
|---|-----|
| POPULAR | |
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8. User Experience

Introduction

Using the SMARTconnect[™] console:

Contents:

- Login
- No Login
- Login with No Prescribed Workout
- Login with Prescribed Workout
- Service Icons
- Software Update
- No Movement Timeout Times
- Definitions

Console Display:



| ltem | Description |
|------|---------------------|
| 1 | User Login |
| 2 | User Identification |
| 3 | Seat Position |
| 4 | Weight (lb/kg) |
| 5 | Repetitions |
| 6 | Next Set Machine |
| 7 | Service Icons |

Login

Log into LFconnect with your SMARTconnect[™] console:

1. Hold devise next to console display or scan QR code to log into system.



| ltem | Description |
|------|-------------|
| 1 | User Log In |
| | |
| | |
| | |

2. Identification light will turn solid green within 2 seconds if user successfully recognized.



| ltem | Description |
|------|---------------------------|
| 1 | User Identification Light |

NOTE: After 3 seconds of inaction, system resets and goes into sleep mode.

3. Personal workout data will appear within 3 seconds after user ID light turns green.



| ltem | Description | Qty. |
|------|-----------------|------|
| 1 | Console Display | 1 |

4. If any errors occur, the user identification light will flash green and "ERR" will appear.



| ltem | Description | Qty. |
|------|---------------------------|------|
| 1 | User Identification Light | 1 |
| 2 | Error Code | 1 |

No Login

Using SMARTconnect[™] console without Logging into LFconnect:

1. Once movement detected, display shows current weight and counts repetitions.



| ltem | Description |
|------|-----------------|
| 1 | Console Display |

NOTE: User ID will not light if user undetected.

2. When movement stops: After 3 seconds, system resets while display remains. After 10 seconds, all displays go blank and system goes into sleep mode.



| ltem | Description |
|------|-----------------|
| 1 | Console Display |

Login with No Work Out

Logging into LFconnect with no Prescribed Work Out:

Logged in but no prescribed work out: User ID lights solid green. Seat position displays profile's setting. If no
profile, displays user size seat recommendation based on user's profile height. If no user's profile height, display
will read "-". Weight displays last weight used. If no last weight recorded, display will read "- - -.-". Repetitions will
read "0".



| ltem | Description |
|------|-----------------|
| 1 | Console Display |
| | |
| | |
| | |
| | |
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| | |
| | |
| | |
| | |
| | |

2. When movement detected: User ID lights solid green. Seat position displays profile's setting. If no profile, displays user size seat recommendation based on user's profile height. Until weight is determined, display will flash "- - -.-". The "-" should appear to move from left to right across the screen. Repetitions count up.



| ltem | Description |
|------|-----------------|
| 1 | Console Display |
| | |
| | |
| | |
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| | |
| | |
| | |
| | |
| | |

3. When movement stops: User ID lights solid green. Seat position goes blank. Current weight is displayed. Repetitions displays total.

ltem

1

Description

Console Display

NOTE: After 3 seconds, system resets and will log off user. After 10 seconds, display goes blank.



Login with Work Out

Logging into LF connect with no Prescribed Work Out:

1. Logged in and has a prescribed work out: User ID lights solid green. Seat position displays profile's setting. If no profile, displays user size seat recommendation based on user's profile height. If no user's profile height, display will read "-". Weight displays target weight from Work Out. Repetitions will display goal.



| ltem | Description |
|------|-----------------|
| 1 | Console Display |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

2. When movement detected: User ID lights solid green. Seat position displays profile's setting. If no profile, displays user size seat recommendation based on user's profile height. Until weight is determined, display will flash "- - -.-". The "-" should appear to move from left to right across the screen. Repetitions count up.



| ltem | Description |
|------|-----------------|
| 1 | Console Display |
| | |

3. When movement stops: User ID lights solid green. Seat position goes blank. Current weight is displayed. Repetitions displays total. Next Set Machine displays abbreviation of next machine to be used; if Work Out complete, display will read "END".

| | ») = 🗱 |
|---|-------------------------|
| | ± |
| 1 | ++230.5 ₪ 15 ④ BC |

| ltem | Description |
|------|-----------------|
| 1 | Console Display |

NOTE: After 3 seconds, system resets and will log off user. After 10 seconds, display goes blank.

Service Icons

SMARTconnect[™] console service icons:

Individual service icons (System Fault, WIFI and Low Battery) appear if system malfunctions occur during log in or movement. Icons turn off as display goes blank.



| ltem | Description |
|------|-----------------|
| 1 | Console Display |

Software Update

Automatically turns on when Software Update starts:

User ID light turns off. Display flashes scrolling counter and "UPD". Automatically turns off when Software Update ends; display goes blank and into sleep mode.



| ltem | Description |
|------|-----------------|
| 1 | Console Display |
| | |
| | |
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| | |
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| | |
| | |
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| | |
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| | |
| | |

No Movement Timeout Times

Amount of time for each machine to timeout due to no movement, if logged in.



| Model | Description | Time (seconds) |
|--------|---------------------------|----------------|
| IS-AB | Abdominal | 15 |
| IS-ADC | Assist Dip/Chin | 25 |
| IS-BC | Biceps Curl | 15 |
| IS-BCD | Biceps Curl Dependent | 15 |
| IS-BE | Back Extension | 15 |
| IS-CE | Calf Extension | 15 |
| IS-CP | Chest Press | 20 |
| IS-FLY | Pectoral Fly/Rear Deltoid | 20 |
| IS-GL | Glute | 15 |
| IS-GLD | Glute Drive | 15 |
| IS-HAA | Hip Abduction/Adduction | 15 |
| IS-HAB | Hip Abduction | 15 |
| IS-HAD | Hip Adduction | 15 |
| IS-LC | Leg Curl | 20 |
| IS-LE | Leg Extension | 25 |
| IS-LR | Lateral Raise | 20 |
| IS-PD | Pulldown | 15 |
| IS-PEC | Pectoral Fly | 20 |
| IS-RW | Row | 20 |
| IS-SLC | Seated Leg Curl | 25 |
| IS-SLP | Seated Leg Press | 20 |
| IS-SP | Shoulder Press | 15 |
| IS-TE | Triceps Extension | 15 |
| IS-TP | Triceps Press | 15 |
| IS-TR | Torso Rotation | 20 |

Definitions

Relative terms and meanings:

Workout

Much like a traditional workout card, each Workout Plan should list:

- Exercises to be performed (Chest Press)
- Number of sets to be performed of the exercise
- Number of repetitions for each individual set (Set 1 = 10 reps, Set 2 = 8 reps, Set 3 = 6 reps)
- Weight setting for each individual set (Set 1 = 100 lb, Set 2 = 105 lb, Set 3 = 110 lb)

Example:

| Workout: Upper Body | Chest Press | Row | Shoulder Press | Triceps Extension | Biceps Curl |
|------------------------|------------------|------------------|------------------|-------------------|------------------|
| Set 1 | 10 reps @ 100 lb | 10 reps @ 100 lb |
| Set 2 | 8 reps @ 105 lb | 8 reps @ 105 lb |
| Set 3 | 6 reps @ 110 lb | 6 reps @ 110 lb |

Prescribed Workouts

Scheduled training:

- Self Prescribed Workout user creates own workout
- Trainer Prescribed Workout trainer creates workout for user
- A.I. Prescribed Workout Algorithms automatically create a suggested new workout based on previous workout parameters (weight used, reps completed, rep effectiveness, etc.)

Prescribed Workout Hierarchy

Scheduled training:

- Last Session Workout -
- Self Prescribed Workout -
- Trainer Prescribed Workout -
- A.I. Prescribed Workout -

Set-up Test

Performing 'strength test evaluation' to determine user's 'fitness level':

- One time evaluation to set beginner benchmarks
- Once generated, an A.I. Workout can be created

9. How To's

Knowledge Base

See Knowledge Base for more detailed information.

List of Procedures

Procedures:

- Battery Replacement
- Battery Door Replacement (TBD)
- Cable Replacement (TBD)
- Display Replacement (TBD)
- Load Pin Replacement (TBD)
- Phone Holder Replacement

Battery Replacement

Tools Required:

• Phillips screwdriver

Time:

5 minutes

Battery Replacement

1. Cautiously loosen battery door screw as battery pack will no longer be supported once screw is loosened.



| ltem | Description | Qty |
|------|--------------------|-----|
| 1 | Battery Door Screw | 1 |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

2. Swing open battery door and remove battery pack.



| ltem | Description | Qty |
|------|--------------|-----|
| 1 | Battery Door | 1 |
| 2 | Battery Pack | 1 |

3. Insert replacement batteries into the battery housing in their proper orientation.



| ltem | Description | Qty |
|------|-----------------|-----|
| 1 | Battery Housing | 1 |
| 2 | D Battery | 4 |

- 4. Insert battery pack into console and close battery door. (See Step 2)
- 5. Tighten battery door screw to 8-10 ft-lbs (10.8-13.5 Nm). (See Step 1)

Phone Holder Replacement

Tools Required:

- Flat head screwdriver
- Hammer
- Phillips screwdriver

Time:

5 minutes

Phone Holder Replacement

1. Remove hardware and phone holder.



| ltem | Description | Qty |
|------|---------------------|-----|
| 1 | Phone Holder (left) | 1 |
| 2 | Screw, 8 x 3/4 | 2 |

2. If unit is equipped with grommets, remove grommets from frame and replace grommets by inserting until flush with frame.



| ltem | Description | Qty |
|------|-------------|-----|
| 1 | Frame | 1 |
| 2 | Grommet | 2 |

NOTE: Grommets are designed for only one-time usage; do not reuse.

3. Replace phone holder with hardware and carefully tighten.



| ltem | Description | Qty |
|------|---------------------|-----|
| 1 | Phone Holder (left) | 1 |
| 2 | Screw, 8 x 3/4 | 2 |

NOTE: Tighten to 8-10 ft-lbs (10.8-13.5 Nm)

10. Troubleshooting

Troubleshooting

Mechanical

| Fault | Problem Cause | Solution | |
|---|--|--|--|
| Inaccurate readings on display | Possible load cell sensor issue | See No Movement Timeout Times in User Experience section | |
| Fails to measure load, or read no load on the display. Examples: Weight reads constant value at all weight plates | Load sensor wire broken and/or Intermittent load sensor wire | Visually inspect load sensor wire at magnetic | |
| Weight reads zero at all weight plates | cable connection at increment weight housing PCB | increment weight housing PCB | |
| Weight automatically increases on each repetition | | | |
| Unit does not hold calibration | Possible load cell sensor not seated in bracket | Check to make sure load cell sensor nut is tight | |
| Intermittent rep count failures | Lidar sensor, or emitter, lens | Inspect and clean Lidar sensor reflector on head plate assembly | |
| | | Inspect, clean and replace emitter lens if needed | |
| | | Replacement of increment weight PCB housing assembly if failed connectivity and visual inspection test | |
| Issue uploading user data, inability to track workouts, or intermittent Bluetooth connection, no data in Halo | Broken Antenna wire or loose antenna in increment weight PCB housing | Possibility of increment weight PCB housing assembly if failed connectivity and visual inspection test | |
| | | Steer towards best practices in getting started guide (stay away from electro-magnetic fields; electrical panels, mirrors | |
| | | Reed switch (wake sensor) position may be too far away: Reed switch Gap should be set 1/8" - 3/16" | |
| System unresponsive, unable to track workout | Upper Pulley Reed switch (wake sensor), load sensor pulley magnets | Inspect to make sure load sensor pulley magnets are in. Note: must replace pulley assembly if any pulley magnets are missing | |
| | | Check Reed sensor switch cable connection, check reed sensor continuity - common is in middle | |
| Workout tracking but with | | Inspect lower increment weight reed switch wire connections. Note: reading on display should be within a +/- 2.5lb tolerance | |
| inaccurate weight display or detection | Lower increment weight detection reed sensor | Increment weight sensor shows whether you have an increment weight pinned. Could round to 100 or 95 if increment weight sensor is faulty (Ex. well calibrated system with 95 lbs pinned, but displays 100) | |
| Pulley noise | Pulley | Replace pulley | |

Display

| Fault | Problem Cause | Solution |
|---|--|--|
| | | Actuate the weight / move weldment arm, then check display battery |
| | | Possibility of tag not supported (ie. Frequency, Size) |
| Login wake won't work | Battery, display board, RFID, capacitive proximity sensor | Tag should be almost touching the displays ½" or less, capacitive proximity operation. RFID is on at a low voltage state where the LED will turn green to indicate successful login. Note: RFID power is turned off completely for Club OFF hours |
| Unable to login | | Actuate the weight / move weldment arm, then check battery, display board replacement if the unit still will not wake, RFID requirements / compatibility Capacitive proximity sensor operation. Replace display board assembly if battery, RFID, capacitive touch pass testing |
| Display never goes to sleep (display green LED stays on), or never wakes up | PTC Pool Time | WIFI to be functional for RTC to operate properly, facility should be configured with the appropriate open / closed times and time zone in Halo |
| | Clock related | WIFI to be functional for RTC to operate properly, facility should be configured with the appropriate open / closed times and time zone in Halo. RTC chip failure would be display board replacement |
| Display I CD fails to operate display | Battery or display related | First check battery |
| LED does not turn green | | Check battery, then review login troubleshooting steps, replace display board assembly |
| Battery indicator goes on | Battery is low | Replace battery if low, battery status will also be in Halo. Power consumption: extremely high RFID usage could affect the battery life expectancy, could cause premature battery life |

Internet Connectivity Components

| Fault | Problem Cause | Solution |
|-------|---|---|
| N c | No internet connection | WIFI to be functional for WASP to operate properly |
| WASP | WASP Off or LED status other than green | Check LED status. First reboot the smartsync and then reboot the WASPs |
| | WASP not sending data | Use WASP Util App, HDMI monitor will be able to see packets are sending |

| Fault | Problem Cause | Solution | |
|---|---|---|--|
| Sm LED illu wh to p Shapesync Gateway - SMARTSync Rea pol illu sho is b rec cor | Smartsync front LED does not illuminate blue when attempting to power up | First power cycle the unit. If still no power check power supply to isolate failure. Note: Shapesync should be in a network closet | |
| | Rear ethernet port LEDs are not illuminating showing that data is being received / connected. | Plug a HDMI or USB-C monitor Ex. thinkvision 14" into SMARTSync to make sure the SMARTSync is working. Note: Shapesync should be in the network closet | |
| PoE Switch | PoE is not powering on | Verify that the PoE is powered on. Next check to make sure ethernet port LEDs are operating. Check ethernet cable connections from router to POE: 1 input port for the network, 1 port is used by the shapesync, each WASP uses a port. Note: PoE should be in the network closet | |
| | | Verify the WIFI indicator on the display is on | |
| | | Make sure customer can get on the facility WIFI and access a website | |
| WIFI Access Point | No internet | Verify Product is connected through Halo Note: Product connect to shapelog cloud, Halo would know first if WIF is disconnected. Halo asset management will receive th WIFI heart beat from shapelog server, if not received fo days we would show a disconnection on halo | |
| | Invalid SSID | Verify appropriate SSID is used with LF Assist app Note: custom SSID and read SSID will be available in a later SDK build - post launch Correct bandwidth requirements | |
| | Poor internet reception | Verify appropriate bandwidth requirements were followed | |
| Product not connecting to WIFI | | Need to do an RFID scan since WIFI transmitter on units will be sleeping | |

11. Schematics

Online References

Detailed Schematics are available online in Parts Manuals:

- https://www.lftechsupport.com access technical documentation and part manuals for Life Fitness, Hammer Strength, and ICG.
- http://www.lifefitness.com/parts service parts ordering for Life Fitness, Cybex, SCIFIT, Hammer Strength, and ICG products along with warranty parts ordering and technician requests.
- https://lfworld.lifefitness.com easy to find Knowledge Base articles with answers to frequently asked questions and product support documentation for Life Fitness, Cybex, SCIFIT, Hammer Strength, and ICG.

Block Diagram



Electrical Components

SMARTconnect[™] electrical components:



| ltem | Description | Qty. |
|------|---|----------------|
| 1 | Load Pin | 1 |
| 2 | Form C Reed Switch (Single-Pole Double-Throw) | 1/2 on FLY/PEC |
| 3 | Form A Reed Switch (Single-Pole Single-Throw) | 1 |
| 4 | Power Cable | 1 |
| 5 | RFID Cable | 1 |
| 6 | Display Cable | 1 |
| 7 | Sensor Board Cable | 1 |

| ltem | Description | Qty. |
|------|---------------------------|-----------------------------|
| 8 | Battery Pack | 1 |
| 9 | D Cell Battery | 1 |
| 10 | Console Assembly | 1 |
| 11 | Sensor Board Assembly | 1 |
| 12 | RFID Module | 1 |
| 13 | Display Board | 1 |
| 14 | Reset Switch | 1 |
| 15 | Antenna Module (On-Board) | 1 |
| 16 | Sensor Board | 1 |
| 17 | Test Switch | 1 |
| 18 | RJ45, 8 POS | 1 |
| 19 | Magnet Pulley | 1/2 on FLY/PEC |
| 20 | Antenna Module (On-Wire) | 1 |
| 21 | Lidar | 1 |
| 22 | Lidar Reflector | 1 |
| 23 | WIFI Antenna 24GHz | 1 |
| 24 | Magnet Assembly | 1 on P-Stack/2 on C&X Stack |

Load Pin



| Pin | Signal Name | |
|-----|----------------------|--|
| 1 | - Excitation Voltage | |
| 2 | + Signal Voltage | |
| 3 | - Signal Voltage | |
| 4 | + Excitation Voltage | |

Form C Reed Switch (Single-Pole Double-Throw)



| Pin | Position |
|-----|-----------------|
| 1 | Normally Closed |
| 2 | Common |
| 3 | Normally Open |

Form A Reed Switch (Single-Pole Single-Throw)



| ltem | Description |
|------|----------------|
| 1 | Sensor 1 Leads |
| 2 | Sensor 2 Leads |



| Pin | Signal Name | Color |
|-----|-------------|-------|
| 2 | V- | Black |
| 1 | V+ | Red |

RFID Cable



| Pin | Signal Name | Color |
|-----|-------------|--------|
| 1 | 5V | Red |
| 2 | RFID-Rx | Brown |
| 3 | RFID-Tx | Yellow |
| 4 | GND | Black |

Display Cable

Left Cable End:



| Pin | Signal Name | Color |
|-----|-------------|--------|
| 7 | VAUX | Orange |
| 6 | #RESET | White |
| 5 | #INT | Green |
| 4 | SL-Tx | Yellow |
| 3 | SL-Rx | Blue |
| 2 | VBAT | Red |
| 1 | GND | Black |

Right Cable End - Row 1:

| Pin | Signal Name | Color |
|-----|-------------|--------|
| 4 | SL-Tx | Yellow |
| 3 | SL-Rx | Blue |
| 2 | VBAT | Red |
| 1 | GND | Black |

Right Cable End - Row 2:

| Pin | Signal Name | Color |
|-----|-------------|--------|
| 8 | | |
| 7 | VAUX | ORANGE |
| 6 | #RESET | WHITE |
| 5 | #INT | GREEN |

Left Cable End - Row 1:

| Pin | Signal Name | Color |
|-----|-------------|--------|
| 4 | SL-Tx | Yellow |
| 3 | SL-Rx | Blue |
| 2 | VBAT | Red |
| 1 | GND | Black |

Left Cable End - Row 2:

| Pin | Signal Name | Color |
|-----|-------------|--------|
| 8 | | |
| 7 | VAUX | ORANGE |
| 6 | #RESET | WHITE |
| 5 | #INT | GREEN |

Right Cable End:

| Pin | Signal Name | Color |
|-----|-------------|--------|
| 7 | VAUX | Orange |
| 6 | #RESET | White |
| 5 | #INT | Green |
| 4 | SL-Tx | Yellow |
| 3 | SL-Rx | Blue |
| 2 | VBAT | Red |
| 1 | GND | Black |

12. Glossary

ANT

A wireless communications protocol stack that enables hardware operating in the 2.4 GHz ISM band to communicate by establishing standard rules for co-existence, data representation, signaling, authentication, and error detection.

ANT+

A wireless technology that allows accessories such as heart rate monitors, speed/cadence sensors, foot pods and power meters to communicate.

Cable Tie

Plastic strap used to secure wiring.

Connectors

Electrical plugs used to connect wiring into electrical component.

Console

Electronic component used for making direct input settings and monitoring the output messages displayed in the digital readout display, also called "Display console board".

LCD

Liquid Crystal Display - Thin, flat electronic visual display that uses the light modulating properties of liquid crystals.

LED

Light Emitting Diode - LED's provide display functionality and are commonly used for indicator lights.

LF Assist

A proprietary app developed by LF that facilitates the install, configuration, and support of the SMARTconnect system. It is designed for use exclusively by the LF Install and Service teams.

PCB

Printed Circuit Board

ΡοΕ

Power Over Ethernet - Distributing power over an Ethernet network. Because the power and signal are on the same cable, PoE enables remote network devices such as ceiling-mounted access points, surveillance cameras and LED lighting to be installed far away from AC power sources.

QR Code

Quick Response Code - A type of matrix barcode for tracking information in a supply chain.

RFID

Radio Frequency Identification - Form of wireless communication that incorporates the use of electromagnetic or electrostatic coupling in the radio frequency portion of the electromagnetic spectrum to uniquely identify an object, animal or person.

RSSI

Received Signal Strength Indicator - Measures how well a client device can receive a signal.

SMARTsync

A customized mini-computer, proprietary to Life Fitness, that acts as a receiver and processor for SMARTconnect data. It is a required part of the SMARTconnect system to ensure that data is flowing to and from your SMARTconnect equipment.

WASP

Wireless ASP - An application provider that hosts wireless applications over the Internet.

13. Warranty

What is Covered

This Life Fitness Family of Brands commercial exercise equipment product is warranted to be free of all defects in material and workmanship.

Who is Covered

The original purchaser or any person receiving the product as a gift from the original purchaser. Warranty will be voided on subsequent transfers.

How Long It is Covered

All coverage is provided by specific Product according to the guidelines listed in Warranty Information.

Who Pays Transportation and Insurance For Service

If the Product or any covered part must be returned to a service facility for repairs, We, Life Fitness Family of Brands, will pay all transportation and insurance charges for the first year. You are responsible for transportation and insurance charge after the first year.

What We Will Do To Correct Covered Defects

We will ship to you any new or rebuilt replacement part or component, or at our option, replace the Product. Such replacement parts are warranted for the remaining portion of the original warranty period.

What is Not Covered

Any failures or damage caused by unauthorized service, misuse, accident, negligence, improper assembly or installation, debris resulting from any construction activities in the Product's environment, rust or corrosion as a result of the Product's location, alterations or modifications without our written authorization or by failure on your part to use, operate and maintain the Product as set out in your Operation Manual ("Manual").

One type RJ45 interchangeable Network ready and Fitness Entertainment port is supplied with the Product. This port complies with the FitLinxx CSAFE specification dated August 4, 2004 stating: 4.75 VDC to 10 VDC; maximum current of 85 mA. Any Product damage caused by a load exceeding this FitLinxx CSAFE specification is not covered by warranty.

All terms of this warranty are void if this product is moved beyond the continental borders of the United States of America (excluding Alaska, Hawaii and Canada) and are then subject to the terms provided by that country's local authorized *Life Fitness* representative.

What You Must Do

Retain proof of purchase. use, operate and maintain the Product as specified in the Manual; notify the place of purchase of any defect within 10 days after discovery of the defect; if instructed, return any defective part for replacement or, if necessary, the entire Product for repair. *Life Fitness* reserves the right to decide whether or not a product is to be returned for repair.

How to Get Parts and Service

Refer to the Corporate Headquarters section of this manual for your local service contact information. Reference your name, address and the serial number of your Product (consoles and frames may have different serial numbers). They will tell you how to get a replacement part, or, if necessary, arrange for service where your Product is located.

Exclusive Warranty

THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES OF ANY KIND EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND ALL OTHER OBLIGATIONS OR LIABILITIES ON OUR PART. We neither assume nor authorize any person to assume for us any other obligation or liability concerning the sale of this Product. Under no circumstances shall we be liable under this warranty, or otherwise, of any damage to any person or property, including any lost profits or lost savings, for any special, indirect, secondary, incidental or consequential damages of any nature arising out of the use of or inability to use this Product. Some states do not allow the exclusion or limitation of implied warranties or of liability for incidental or consequential damages, so the above limitations or exclusions may not apply to you.

Changes in Warranty Not Authorized

No one is authorized to change, modify or extend the terms of this limited warranty.

Effects of State Laws

This warranty gives you specific legal rights, and you may have other rights which vary from state to state and country by country.

Warranty Information

| 3 years | 1 Year | 6 months |
|---------------------------------|---------|------------|
| Electrical and Mechanical Parts | Console | Wear items |

Warranties outside the U.S. may vary.