



FAP42TCEN

Owner's Manual



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Owner's Manual

Table of Contents

Introduction.....	3
Key Features.....	3
Placement.....	3
Installation.....	4
8Ω Connections.....	5
Line Matching Transformer Connection.....	6
Maintenance and Care.....	6
Specifications.....	7
Dimensional Drawings.....	9
Warranty.....	13

FAP42TCEN

Owner's Manual

Introduction

Thank you for purchasing the AtlasIED FAP42TCEN Strategy Series® II in-ceiling mount loudspeakers. The FAP42TCEN loudspeaker is designed to provide high fidelity, long life and installation convenience for commercial and residential applications. The FAP42TCEN is available in white for indoor applications.

Key Features

- Low Depth (4" depth galvanized steel enclosure) Speaker System for Limited Space Applications. galvanized steel enclosure
- Easy installation in drop tile or sheetrock ceilings via C-Ring / V-Rail tile bridge and "Dog Leg" mounting system (Included)
- Front mounted tap selector switch for easy system tuning adjustments includes transformer bypass setting for 8Ω / direct coupled operation)
- Unique "trap door" input section allows for through conduit runs with rigid or flex conduit
- 4 Pole detachable Phoenix/European style connector allows easy pre-wiring and is convenient for daisy chaining additional Strategy Series full range speakers or subwoofers
- "Press fit" grilles blend better into contemporary architecture
- Enhanced quality 70.7V / 100V internal transformers minimize insertion loss and maintain low frequency response while providing increased output for higher SPL applications
- Available in White FAP42TCEN
- Safety Listed EN54-24

Placement

Indoor Use

The FAP42TCEN combines superior coaxial loudspeaker performance with wide dispersion and easy installation. A deep drawn enclosure and wide coverage make the FAP42TCEN a perfect choice for high ceilings. The FAP42TCEN will satisfy the needs of owners, architects, contractors, and consultants by delivering true, high fidelity sound reproduction in an attractive and easy-to-install system. The FAP42TCEN is ideal for high-intelligibility voice, music, and signal reproduction in commercial, industrial, and institutional applications..

FAP42TCEN

Owner's Manual

Installation

Drop Tile Ceiling

1. Remove 2'x2' or 2'x4' tile.
2. Align adjustable dual rail & c-ring assembly on rear of tile in desired position.
3. Using template provided mark cutout circle with marker and cut hole. (9" FAP42TCEN)
4. Affix C-ring assembly to rails using screws provided and position assembly on rear of ceiling tile. Replace tile into grid making sure that formed ends of tile bridge rails engage T-bar tile support rails.
5. Bring service loop from rear of tile, through tile bridge C-ring to access panel located on side of enclosure .
Terminate the service loop to Phoenix style connector provided (please note polarity). Combination knockouts are provided to facilitate conduit.
6. Insert enclosure through front of tile. Using standard #2 Phillips screwdriver or screw-gun, tighten (4) dogleg assemblies until they engage C-ring assembly. **DO NOT OVER-TIGHTEN DOG LEG SCREWS!**
7. Adjust front mounted switch to desired wattage tap setting or 8Ω* (See important note regarding 8Ω operation)
8. Install press-fit grille into front bezel ring. Push baffle upwards until baffle is flush with bezel ring.
9. For safety and seismic considerations a suspension ring is integrated into input panel section of unit. Atlas Sound strongly suggests that a support wire be installed from this support point to a suitable anchor point above ceiling grid. In drop tile applications, this wire can usually be installed from an adjacent tile access near speaker location.

Dry Wall ("Hard Deck") Installation

1. Using template provided, mark cutout circle in desired mounting location and cut hole. (9" FAP42TCEN)
2. Place tile bridge rails and C-ring through hole. Use V shaped edge of C-ring to align tile bridge assembly above ceiling (alignment screws provided are not required for this type of installation)
3. Bring service loop from through the tile bridge/C-ring to access panel located on side of the enclosure. Terminate service loop to E uroblock connector provided (please note polarity). Combination knockouts are provided to facilitate conduit.
4. Insert enclosure into hole. Using standard #2 Phillips screwdriver or screw-gun, tighten (4) dogleg assemblies until they engage the C-ring assembly. **DO NOT OVER-TIGHTEN DOG LEG SCREWS!**
5. Adjust front mounted switch to desired wattage tap setting or 8Ω* (See important note regarding 8Ω operation)
6. Install press-fit grille into front bezel ring. Push baffle upwards until baffle is flush with bezel ring.

New Construction (Drywall Ceilings)

Use of optional FAP42-TR (for use with FAP42TCEN) new construction bracket essentially reserves speaker mounting location prior to drywall installation

in new construction. Bracket mounts between 16" or 24" OC studs and includes a 3/8" downward lip to provide a template for drywall installers to cut around. For final installation, please follow instructions below. Note: tile bridge components are not used in new construction applications where new construction bracket is utilized.

1. Bring service loop through hole in ceiling provided by pre construction bracket to access panel located on side of Enclosure. Terminate service loop to Phoenix style connector provided (please note polarity). Combination knockouts are provided to facilitate conduit.
2. Insert speaker assembly into hole. Using standard #2 Phillips screwdriver or screw-gun, tighten (4) dog leg assemblies until they engage ring provided on new construction bracket. **DO NOT OVER-TIGHTEN DOG LEG SCREWS!**
3. Adjust front mounted switch to desired wattage tap setting or 8Ω* (See important note regarding 8Ω operation)
4. Install press-fit grille into front bezel ring. Push baffle upwards until baffle is flush with bezel ring

FAP42TCEN

Owner's Manual

Terminal Cover

The FAP42TCEN includes a 4-pole detachable Phoenix style connector and, a wire gland for wiring convenience. To gain access to the 4-pole connector, loosen the steel swing out door machine screw on the back of the enclosure. Attach the wire gland to the hanger cover plate. Feed service line through gland before terminating to 4 pole connector (please note polarity). Plug the connector in to the speaker. Close the swing door and tighten machine screw.

8Ω Connections

The FAP42TCEN loudspeakers include an 8Ω switch position.

CAUTION: Do not set switch to 8Ω position when speakers are wired in 70.7V / 100V Systems..

Amplifier limitations will dictate how many FAP42TCEN loudspeakers may be connected. Most consumer amplifiers are rated to operate at a 4Ω minimum output impedance per channel (check the back panel of the amplifier or the amplifier owners manual to verify). With this arrangement, two FAP Series loudspeakers may be connected in parallel to each channel of the amplifier (two 8Ω loudspeakers per channel = a 4Ω load). (See Figure 1)

Be sure to use good quality, unshielded twisted pair speaker cable to connect the amplifier to the loudspeaker(s) (#14AWG for runs <80', #12AWG for runs >80'). Standard ZIP style speaker cable may also be used if twisted pair cable is not available.

DO NOT USE SHIELDED INSTRUMENT STYLE (Guitar) CABLES TO CONNECT SPEAKERS.

When making connections, be sure to maintain proper polarity between speakers. (Red wire to red or (+) terminal, black wire to black or (-) terminal where applicable).

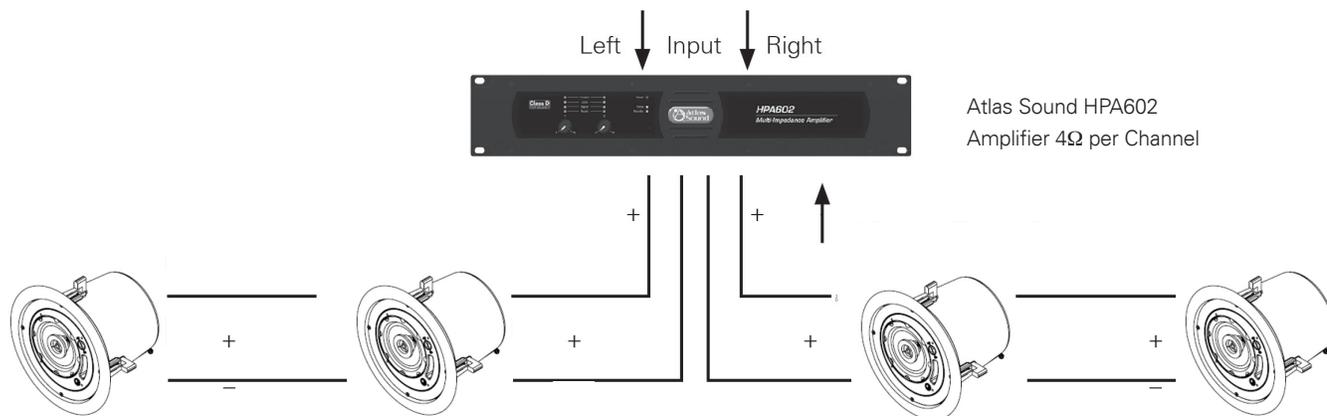


Figure 1

FAP42TCEN

Owner's Manual

Line Matching Transformer Connections

The FAP42TCEN includes a 4-pole connector housed by a steel protective cover. The Phoenix style connector is designed to accept bare wire. AtlasIED recommends using #18AWG for wire runs up to 500', #16AWG for wire runs of 500' to 1000', and #14AWG for runs over 1000'. Building codes often dictate that speaker wire must be plenum rated and run in conduit. Be sure to check local code requirements before installation.

The FAP42TCEN is equipped with line matching transformers. These types of loudspeakers require an amplifier capable of driving a 70.7V/100V line in order to ensure that the wattage taps selected will be appropriate. 8Ω Connections

Connect the speaker cable to the (+) and (-) Phoenix style terminal block on the back of the FAP42TCEN. Using a small screwdriver, adjust the wattage selector switch on the front of the FAP42TCEN to the desired wattage tap.

CAUTION: Do not set switch to 8Ω position when speakers are wired in 70.7V / 100V Systems..

Quantity of loudspeakers per amplifier will be dictated by the amplifier's wattage rating (at least 20% headroom should be allowed for extended range program material such as paging or digital music sources) i.e. an 120-watt amplifier will power 6 loudspeakers tapped at 16-watts each. ($6 \times 16 = 96$, $120 \times 80\% = 96 < 120W$) (See Figure 2)

6 X 16 Watts = 96 Watts Total Load on Amplifier

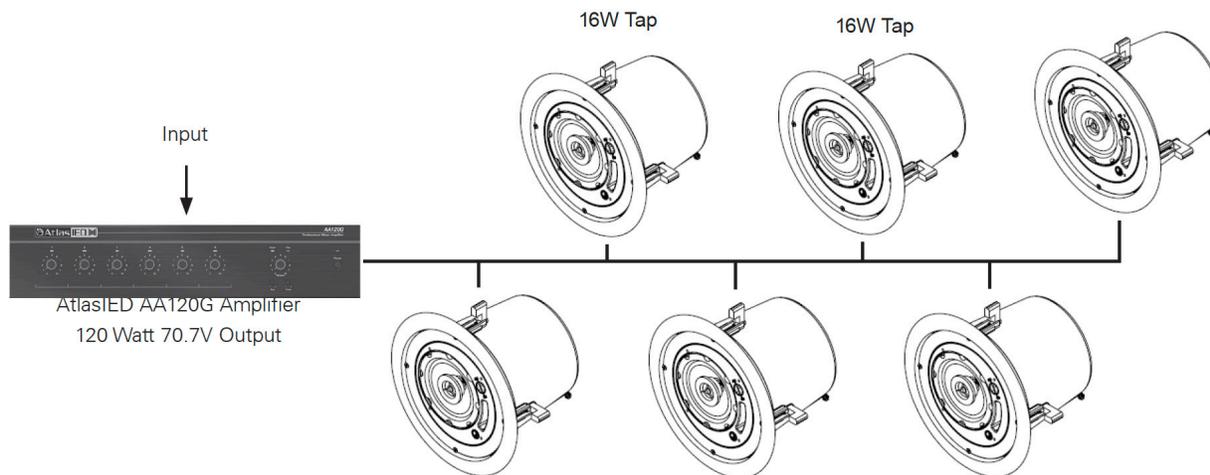


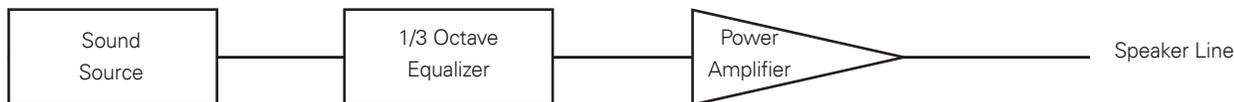
Figure 2

Maintenance and Care

AtlasIED surface mount loudspeakers have been designed and manufactured for years of trouble-free service. Clean the FAP42TCEN with a dampened soft cloth or paper towel. For loudspeakers mounted high on a ceiling, use a broom or duster to gently brush face off.

Using the FAP42TCEN as a Component of a Voice Alarm System

To utilize the FAP42TCEN in a Fire Alarm, Voice Alarm System it is required to insert an equalizer in the signal path before the power amplifier.



FAP42TCEN

Owner's Manual

Equalizer Settings

Frequency Band	Gain (dB)	Q/Slope (dB/Oct)
136	-5	2
200	-7.1	2.3
468	-3.1	3.9
1324	3.2	4.9
2461	1.6	2.1
7772	3.3	4.7
10662	3.3	3.2
13437	5.3	3.1

FAP42TCEN

Owner's Manual

System	
Type	Full-Range, Indoor, High Performance Loudspeaker
Operation Mode	Non-Powered Passive
Operating Range (-10dB)	71Hz - 20kHz
Frequency Response (± 5 dB)	75Hz - 20kHz
Usable Low Frequency Limit (10dB Down Point)	71 Hz
Input Sensitivity at 1W / 4M EN54-24	70dB
Vertical Coverage	130°, 2 kHz Octave Band
Horizontal Coverage	130°, 2 kHz Octave Band
Max Input Ratings (8 Ω)	16 W Continuous, 32 W Programme 11.3 Volts RMS, 16 Volts Momentary Peak
Transformer Taps - 70V	16W (313 Ω), 8W (625 Ω), 4W (1250 Ω), 2W (2500 Ω), 1W (5000 Ω) and Low Impedance (8 Ω)
Transformer Taps - 100V	16W (625 Ω) RNP, 8W (1250 Ω), 4W (2500 Ω), 2W (5000 Ω) and Low Impedance (8 Ω)
Directivity Factor (Q)	11.38 @ 2kHz
Directivity Factor (DI)	10.56 @ 2kHz
Power Handling in 8 Ω Switch Position	25 Watts
Max SPL at 4m EN54-24 (Passive 16W @ 100V)	83dB
Transducer Complement	
LF Transducer Qty and Size	4" Poly Cone with Butyl Rubber Surround
LF Voice Coil Size	1"
HF Transducer Qty and Size	1" (25mm) Dome Tweeter
HF Voice Coil Size	N/A
Nominal Impedance (System)	8 Ω
Minimum Impedance (System)	7.1 Ω @ 290Hz
Crossover Frequency	4.7 kHz
Crossover Slope	6dB / Octave
Driver Protection (High and Low Frequency)	N/A
Enclosure	
Color	White Finish (RAL9014)
Enclosure Material	Steel (Plated), ABS plated
Grille Material	Aluminum (White)
Mount Material	Steel Tile Bridge
Input Connection	4 Pole Phoenix Style Connector
Mounting/Rigging Provisions	Included Tile Bridge
Ingress Protection EN54-24	IP21C (Type A)
Environmental Testing	N/A
Logo	1 Side - Grill
Product Dimensions (\varnothing x D)	10.43" x 4.33" (265mm x 110mm)
Shipping Dimensions (HxWxD)	28" x 12.5" x 17" (711.12mm x 317.5mm x 431.8mm)
Net Weight	6.05 lbs (2.74kg)
Shipping Weight	10.68 lbs (4.84kg)
Warranty Coverage	
Warranty Period	5 Years

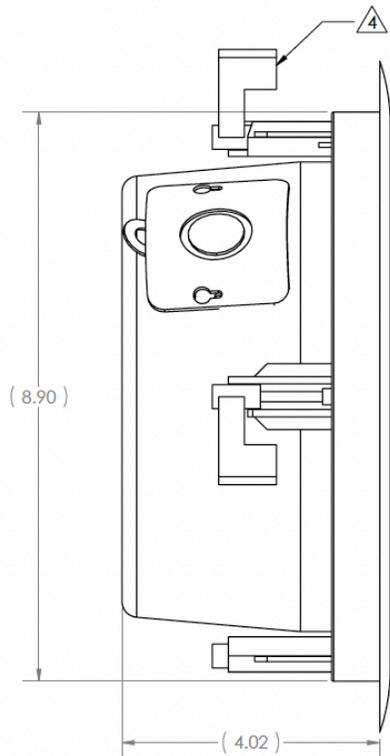
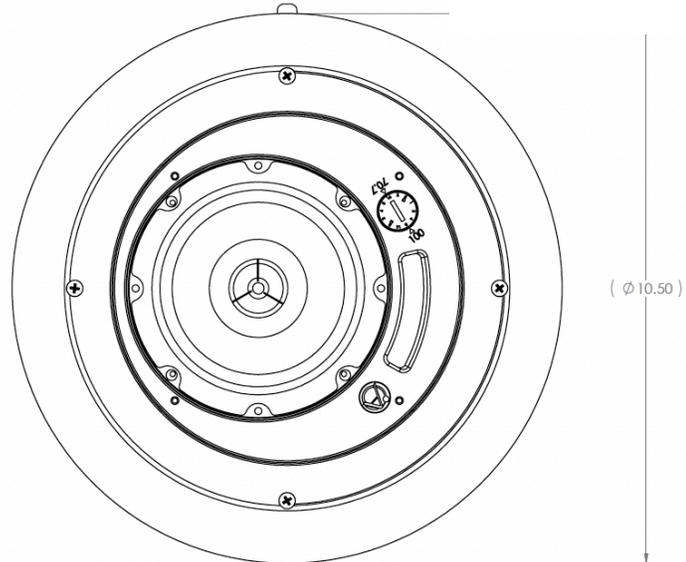
NOTES:

1. Power: All power figures are calculated using the rated nominal impedance.
2. Frequency response and sensitivity are free field measurements
3. Recommended power amplification is 1.5x program power.
4. RNP - Rated Noise Power

FAP42TCEN

Owner's Manual

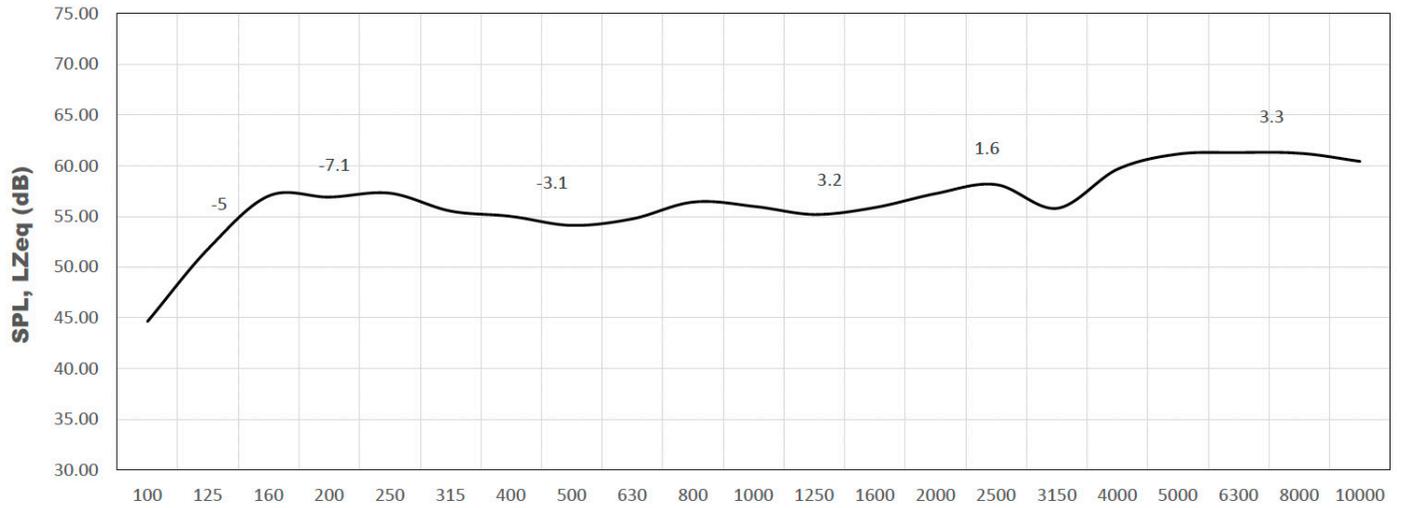
Dimensional Drawings



FAP42TCEN

Owner's Manual

Frequency Response (EN54-24)



FAP42TCEN

Owner's Manual

Vertical (Figure A)	Rotated right from the reference axis (6 dB drop angle)	Rotated left from the reference axis of the speaker (6 dB drop angle)
Centre Octave Band (Hz)		
500	180	180
1000	175	175
2000	160	160
4000	85	85

Horizontal (Figure B)	Rotated right from the reference axis of the speaker (6 dB drop angle)	Rotated left from the reference axis of the speaker (6 dB drop angle)
Centre Octave Band (Hz)		
500	180	180
1000	175	175
2000	160	160
4000	85	85

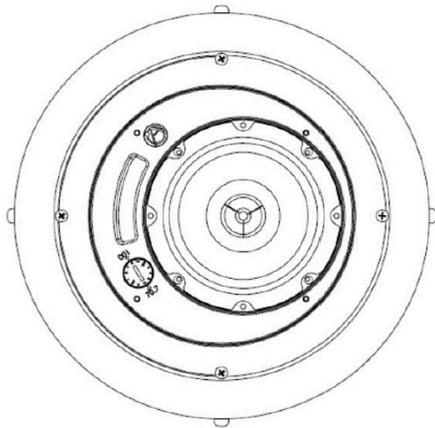


Figure A

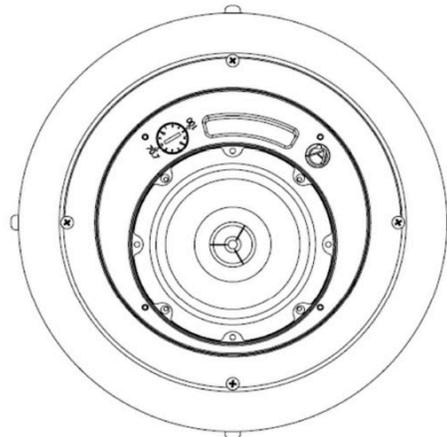


Figure B

Reference Axis - A horizontal line running through the center of the speaker, from back to front.

Reference Plane - The facial plane of the speaker.

Reference Point - The intersecting point of the Reference Axis and Reference Plane.

Horizontal Plane - The horizontal plane across the reference point when the device is placed upright

FAP42TCEN

Owner's Manual Limited Warranty

All products manufactured by AtlasIED are warranted to the original dealer / installer, industrial or commercial purchaser to be free from defects in material and workmanship and to be in compliance with our published specifications, if any. This warranty shall extend from the date of purchase for a period of three years on all AtlasIED products, including SOUNDOLIER brand, and ATLAS SOUND brand products except as follows: one year on electronics and control systems; one year on replacement parts; and one year on Musician Series stands and related accessories. Additionally, fuses and lamps carry no warranty. AtlasIED will solely at its discretion, replace at no charge or repair free of charge defective parts or products when the product has been applied and used in accordance with our published operation and installation instructions. We will not be responsible for defects caused by improper storage, misuse (including failure to provide reasonable and necessary maintenance), accident, abnormal atmospheres, water immersion, lightning discharge, or malfunctions when products have been modified or operated in excess of rated power, altered, serviced or installed in other than a workman like manner. The original sales invoice should be retained as evidence of purchase under the terms of this warranty. All warranty returns must comply with our returns policy set forth below. When products returned to AtlasIED do not qualify for repair or replacement under our warranty, repairs may be performed at prevailing costs for material and labor unless there is included with the returned product(s) a written request for an estimate of repair costs before any nonwarranty work is performed. In the event of replacement or upon completion of repairs, return shipment will be made with the transportation charges collect.

EXCEPT TO THE EXTENT THAT APPLICABLE LAW PREVENTS THE LIMITATION OF CONSEQUENTIAL DAMAGES FOR PERSONAL INJURY, ATLASIED SHALL NOT BE LIABLE IN TORT OR CONTRACT FOR ANY DIRECT, CONSEQUENTIAL OR INCIDENTAL LOSS OR DAMAGE ARISING OUT OF THE INSTALLATION, USE OR INABILITY TO USE THE PRODUCTS. THE ABOVE WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

AtlasIED does not assume, or does it authorize any other person to assume or extend on its behalf, any other warranty, obligation, or liability. This warranty gives you specific legal rights and you may have other rights which vary from state to state.

Service

Should your FAP42TCEN require service, please contact the AtlasIED warranty department through the online warranty claim process.

Online Warranty Claim Processes

1. Warranty submissions are accepted at: https://www.atlasied.com/warranty_statement where the type of return Warranty or Stock return can be selected.
2. Once selected, you will be prompted to enter your login credentials. If you do not have a login, register on the site. If already logged-in, navigate to this page by selecting "Support" and then "Warranty & Returns" from the top menu.
3. In order to file a Warranty Claim, you will need:
 - A. A copy of the invoice / receipt of the purchased item
 - B. Date of Purchase
 - C. The product name or SKU
 - D. The serial number for the item (if no serial number exists, enter N/A)
 - E. A brief description of the fault for the claim
4. Once all required fields are completed, select the "Submit Button." You will receive 2 emails:
 1. One with a confirmation of the submission
 2. One with a case# for your reference should you need to contact us.

Please allow 2-3 business days for a response with a Return Authorization (RA) number and further instructions.

AtlasIED Tech Support can be reached at 1-800-876-3333 or atlasied.com/support.

Visit our website at www.AtlasIED.com to see other AtlasIED products.

A copy of the DoP can be found at www.AtlasIED.com/FAP42TCEN