



INSTALLATION GUIDE

Mounting & Sealing of Housing & Electrical Details

S-Type COOLDOME™ Enclosure



ST-CD (12V DC)

ST-CD-24V (DC)

COOLDOME™ Enclosures

LIMITED WARRANTY

DOTWORKZ, INC. PRODUCTS

DOTWORKZ SYSTEMS INC. Warrants this Product to be free from defects in material or workmanship, as follows:

PRODUCT CATEGORY	PARTS	LABOR
All Enclosures and Electronics	One (1) Year	One (1) Year
Power Supplies	One (1) Year	One (1) Year
Accessory Brackets	One (1) Year	One (1) Year

During the warranty period, to repair the product the purchaser will deliver it to Dotworkz Systems Inc. San Diego, CA or return the defective product, freight prepaid. The product to be repaired is to be returned in either its original carton or a similar package presenting an equal degree of protection with a Return Materials Authorization number displayed on the outer box or packing slip. To obtain RMA # you must contact our Technical Support Team at **866-575-4689**. Dotworkz Systems will return the repaired Product, freight paid. Dotworkz Systems is not obligated to provide purchaser with a substitute unit during the warranty period or at any time. After the applicable warranty period, purchaser must pay all labor and/or parts and shipping charges.

The limited warranty stated in these product instructions is subject to all of the following terms and conditions:

- 1. NOTIFICATION OF CLAIMS: WARRANTY SERVICE:** If purchaser believes that the product is defective in material or workmanship, then a written notice with an explanation of the claim shall be given promptly by purchaser to Dotworkz Systems but all claims for warranty service must be made within the warranty period. If after investigation Dotworkz Systems determines that the reported problem was not covered by the warranty, purchaser shall pay Dotworkz Systems for the cost of investigating the problem at its then prevailing per incident billable rate. No repair or replacement of any product or part thereof shall extend the warranty period as to the entire product. The specific warranty on the repaired part only shall be in effect for a period of ninety (90) days following the repair or replacement of that part or the remaining period of the product parts warranty, whichever is greater.
- 2. EXCLUSIVE REMEDY: ACCEPTANCE:** Purchaser's exclusive remedy and Dotworkz Systems sole obligation is to supply (or pay for) all labor necessary to repair any product found to be defective within the warranty period and to supply, at no extra charge, new or rebuilt replacements for defective parts
- 3. EXCEPTIONS TO LIMITED WARRANTY:** Dotworkz Systems shall have no liability or obligation to purchaser with respect to any product requiring service during the warranty period which is subjected to any of the following: abuse, improper use, negligence, accidents, lightning damage or other acts of God (i.e., hurricanes, earthquakes), modification, failure of the end-user to follow the directions outlined in the product instructions, failure of the end-user to follow the maintenance procedures written and recommended in the product instructions and service manual, or recommended by the International Security Industry Organization. Furthermore, Dotworkz Systems shall have no liability where a schedule is specified for regular replacement, maintenance or cleaning of certain parts (based on usage) that the end-user has failed to abide to such schedule; attempted repair by non-qualified personnel; operation of the Product outside of the published environmental and electrical parameters; if such Product's original identification (trademark, serial number) markings have been defaced, altered, or removed. Dotworkz Systems excludes from warranty coverage products sold AS IS and/or WITH ALL FAULTS and excludes used Products which have not been sold by Dotworkz Systems to the Purchaser. All software and accompanying documentation furnished with, or as part of the Product is furnished "AS IS" (i.e., without any warranty of any kind), except where expressly provided otherwise in any documentation or license agreement furnished with the Product.
- 4. PROOF OF PURCHASE:** The purchaser's dated bill of sale must be retained as evidence of the date of purchase and to establish warranty eligibility.

DISCLAIMER OF WARRANTY EXCEPT FOR THE FOREGOING WARRANTIES, DOTWORKZ SYSTEMS HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO ANY AND/OR ALL IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND/OR ANY WARRANTY WITH REGARD TO ANY CLAIM OF INFRINGEMENT THAT MAY BE PROVIDED IN SECTION 2-312(3) OF THE UNIFORM COMMERCIAL CODE AND/OR IN ANY OTHER COMPARABLE STATE STATUTE. DOTWORKZ SYSTEMS HEREBY DISCLAIMS ANY REPRESENTATIONS OR WARRANTY THAT THE PRODUCT IS COMPATIBLE WITH ANY COMBINATION OF NON-VIDEOLARM PRODUCTS OR NON-DOTWORKZ SYSTEMS RECOMMENDED PRODUCTS THAT THE PURCHASER CHOOSES TO CONNECT TO THE PRODUCT.

LIMITATION OF LIABILITY THE LIABILITY OF DOTWORKZ SYSTEMS, IF ANY, AND PURCHASER'S SOLE AND EXCLUSIVE REMEDY FOR DAMAGES FOR ANY CLAIM OF ANY KIND WHATSOEVER, REGARDLESS OF THE LEGAL THEORY AND WHETHER ARISING IN TORT OR CONTRACT SHALL NOT BE GREATER THAN THE ACTUAL PURCHASE PRICE OF THE PRODUCT WITH RESPECT TO WHICH SUCH CLAIM IS MADE. IN NO EVENT SHALL DOTWORKZ SYSTEMS BE LIABLE TO PURCHASER FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND INCLUDING BUT NOT LIMITED TO COMPENSATION, REIMBURSEMENT OR DAMAGES ON ACCOUNT OF THE LOSS OF PRESENT OR PROSPECTIVE PROFITS, OR FOR ANY OTHER REASON WHATSOEVER.

PRODUCT INSTALLATION PRECAUTIONS – WARNINGS – ADDITIONAL INFORMATION (RETAIN THIS DOCUMENT)

IMPORTANT SAFEGUARDS

- 1 **Read Instructions** - All the safety and operating instructions should be read before the unit is operated.
- 2 **Retain Instructions** - The safety and operating instructions should be retained for future reference.
- 3 **Heed Warnings** - All warnings on the unit and in the operating instructions should be adhered to.
- 4 **Follow Instructions** - All operating & user instructions should be followed.
- 5 **Electrical Connections** - Only a qualified electrician should make electrical connections.
- 6 **Attachments** - Do not use attachments not recommended by the product manufacturer as they may cause hazards.
- 7 **Cable Runs** - All cable runs must be within permissible distance.
- 8 **Mounting** - This unit must be properly and securely mounted to a supporting structure capable of sustaining the weight of the unit accordingly:
 - a. Installation should be made by a qualified installer.
 - b. Installation should be in compliance with local codes.
 - c. Care should be exercised to select suitable hardware to install the unit, taking into account both the composition of the mounting surface and the weight of the unit. Be sure to periodically examine the unit and the supporting structure to make sure that the integrity of the installation is intact. Failure to comply with the foregoing could result in the unit separating from the support structure and falling, with resultant damages or injury to anyone or anything struck by the falling unit.

CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT EXPOSE COMPONENTS TO WATER OR MOISTURE	
	The lightning flash with an arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of non-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons
	The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance

SERVICE

If the unit ever needs repair service, customer should contact Dotworkz Systems +1 (619) 224-LIVE (5483) for return authorization & shipping instructions.

UNPACKING

Unpack carefully. Electronic components can be damaged if improperly handled or dropped. If an item appears to have been damaged in shipment, replace it properly in its carton and notify the shipper. **Be sure to save:**

1. The shipping carton and packaging material. They are the safest material in which to make future shipments of the equipment.
2. These Installation and Operating Instructions.

- ✓ For technical questions or product returns – call Dotworkz Customer Service (866-575-4689) 7:30 AM to 4:30 PM (PST). The proper technician will contact you as soon as possible.
- The External Nut on All electrical wire feed Glands must be tightened to create a weather tight seal prior to putting S-TYPE in service. Failure to create this seal may result in water incursion into enclosure. This may lead to electrical shock, product failure and damage to electrical systems installed within enclosure, including but not limited to damage to camera, heater and blower circuitry, cooling circuitry and other systems installed in unit.
- All screws on hinged lower must be tightened to create seal on enclosure. Failure to create this seal may result in water incursion into enclosure. This may lead to electrical shock, failure and damage to electrical systems installed within enclosure, including but not limited to damage to camera, heater and blower circuitry, cooling circuitry and other systems installed in unit.
- Do not over tighten any Screws, Stand Offs, or other fasteners on this unit. Failure to heed this warning will cause damage or failure of the S-TYPE enclosure.



Electrical Conduit Guidelines

For optimal performance, your Dotworkz Enclosure is designed to be Air & Water Tight to eliminate any moisture, dust, and insect damage, safety, performance, reliability, and maintenance related issues.



Use of Electrical Conduit, without sealing the entry ports/ inside wire feeds within Camera Enclosure, will subject the inside of your enclosure to possibility of condensation driven moisture, dust, and insect contamination hazards.



Dotworkz has provided each enclosure with two Cable Gland Strain Relief seal ports that fully seal enclosure to an IP68 rating, Waterproof and Airtight Seal. To properly seal, only one round cable is used in each cable gland port. (Holes on enclosure are 7/8" diameter, ready for standard 1/2" I.D. NPT connector, or PG13 fittings.)

However, we realize our customers are retrofitting these connectors with electrical conduit fittings. We acknowledge this industry customization and installation practice, and would like to guide customers to properly install these products.

Conduit Guidelines:

- 1) If wires, cabling, or conduit are coming at enclosure wire entry level, or above, always create a drip loop.
- 2) Please use only approved watertight electrical conduit and connectors, IP66 or better, with proper seals and fittings installed & fully seal.
- 3) **Then, after all wire and cables are installed into enclosure, Seal wire entry ports inside of enclosure** with any number of commercially available sealing putty's, Silicone Sealant, or similar products that are approved by applicable local and relevant electrical codes.



Dotworkz supplies two 1/2" diameter foam conduit plugs, that when installed, will assist in sealing off airflow in conduit feed thru, at cable entry inside of enclosure. Putty or Sealant can be used in conjunction with these plugs, to assure a full seal inside enclosure cable feed entry.

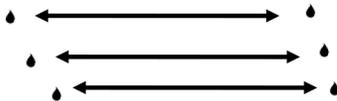
FORCES AT WORK IN ANY UNSEALED, CONDUIT WIRE FEED ENCLOSURE SYSTEM

WARM/MOIST IN UNSEALED CONDUIT MOVES THRU CONDUIT FEEDS EXPAND & CONTRACT WHEN CONDUIT HEATS & COOLS WITH OUTSIDE TEMPERATURES

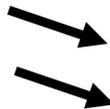


EXPANDING HEATED AIR IS PUSHED INTO ENCLOSURE THEN COOLS & CONDENSES, HUMID AIR CONDENSES ON SURFACES INSIDE ENCLOSURE

Humid Air



Condensing to Water

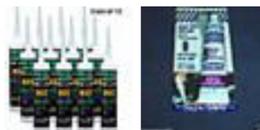


SHOCK HAZARD!

Failure to fully seal enclosure wire and cabling entry ports **may lead to shock hazard, unsatisfactory product performance, a possibility of damage to electronics in the Dotworkz enclosure product, including camera damage, and damage to integrated electronics due to air driven moisture traveling thru the conduit, condensing and collecting in the enclosure creating a short circuit hazard.**



Electrical Putty & Putty Tapes

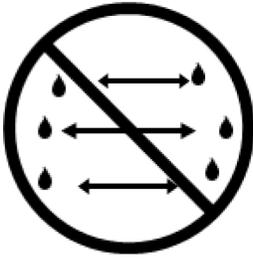


Silicone Sealants



Foam Sealants (use very sparingly)

Dotworkz does not endorse, nor has it evaluated any of these products. Test products first, and follow all manufacturers' instructions. Follow all applicable electrical and building codes and installation guidelines. End user assumes liability for applicability of these products and their effectiveness and incurred liability in using these products.



VENT STOPPER PLUGS for Conduit

Foam Conduit Feed Plugs for 1/2" I.D. Conduit

dotworkz[®]



Prevents Humid Air exchange from venting thru electrical conduit into Dotworkz sealed enclosure.
Thus eliminating condensation issues within Dotworkz sealed enclosures.

QUICK INSTALLATION GUIDE



1) Pull wires to final installed length.



4) Push plug into conduit mouth with finger tips till it flush with outside of fitting.



2) Open Vent Stop Plug and install over wire.



5) Repeat steps 1-4 for any other conduit feeds as needed.



3) Pinch Plug to compress over wire, and insert into conduit feed mouth.



6) To assure an airtight seal, caulk around wires and cables, coating entire plug surface with sealant.



Proper Cable Management to Enclosure

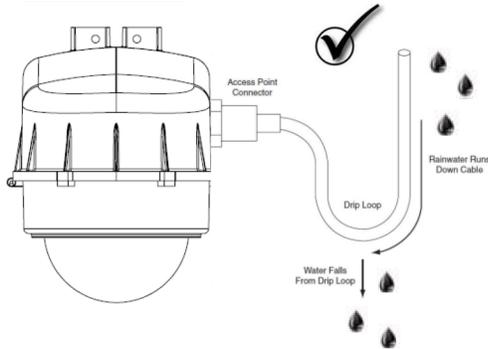
Avoid common Installation Mistakes



Only Use Qualified Installation or Service Technician for Installing & Servicing Dotworkz Enclosures.
Power Must be disconnected and kept off while installing or Servicing Enclosure.
Follow All Local and Applicable Electrical Codes and Standards for Installation of Electrical components.

All Cable Ports, wire feeds, or Conduit **must be fully sealed** to eliminate moisture within Enclosure.
All Dotworkz Enclosures are required to be fully sealed before placing into service, to protect integrated products, to eliminate any moisture driven shock hazard, to perform optimally as designed.

DRIP LOOPS



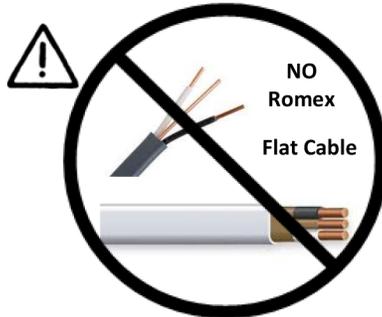
Always Create a Drip Loop for all Cables or Conduit Entering Dotworkz D2 Housing from level or Above D2 Conduit, Power, Data, & Antennae
To avoid gravity driven moisture entry into Enclosure

Cable Gland Strain Relief Port Seals

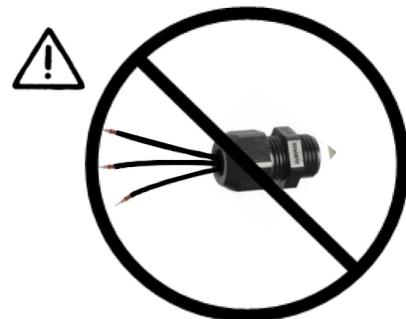
To properly seal, Dotworkz Cable Gland Strain Relief Ports will only accept **One single round cable per port**



- * SJOOW
- * Cat5/ Cat6
- * Coaxial



Use Round Cable Only with provide Cable Gland Port Seal



Dotworkz Standard Cable Gland Port Seals are designed for **ONE** single round cable only per port

Cable can be multi-conductor in single round cable bundle such as Cat5/ 6e (burial rated), or Conductor cable SJOOW (water rated)

Conduit

If Conduit is used in Lieu of Cable Gland Port Seals provided,
Then Use Only Liquid Tight Conduit & fittings properly sealed.



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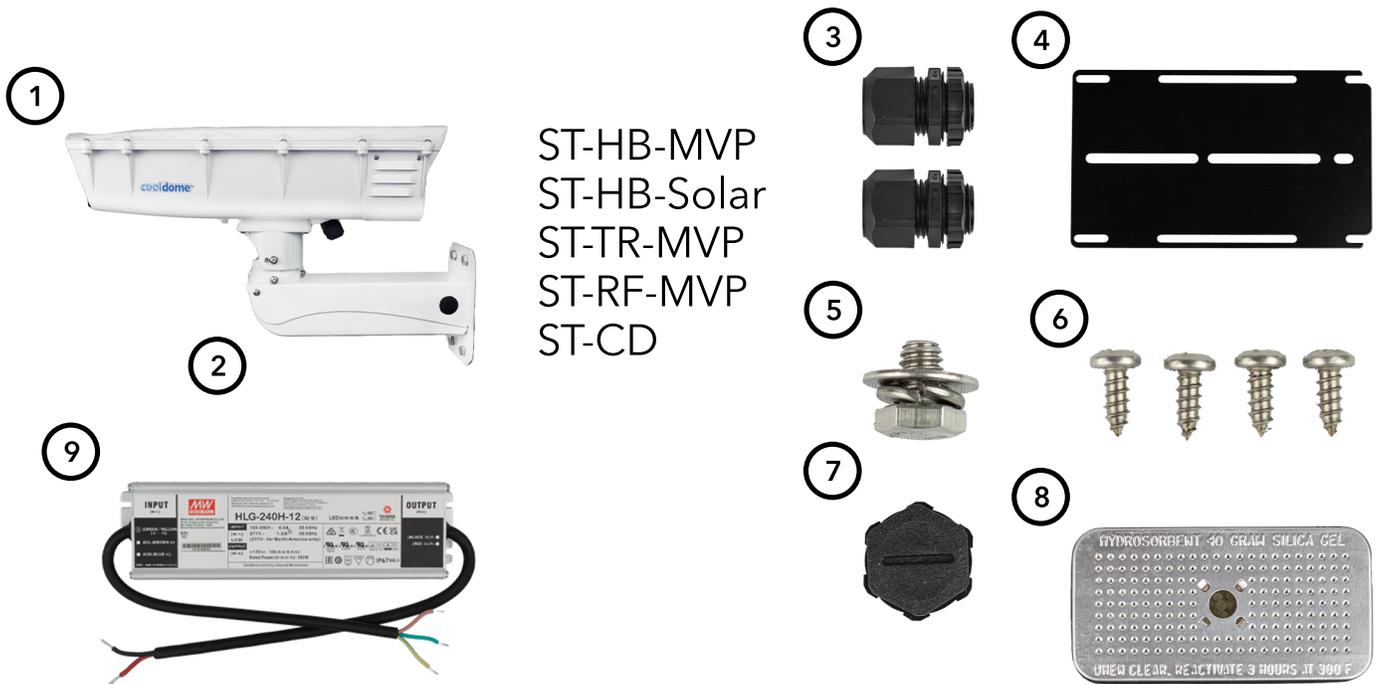


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Internal Wire feeds must be fully sealed prior to placing Enclosure into Service.
See Conduit Guidelines section of this manual.

Component Check List & Standard hardware: S-Type Models



ST-HB-MVP
 ST-HB-Solar
 ST-TR-MVP
 ST-RF-MVP
 ST-CD

Included in S-Type Package

- 1- S-Type enclosure (1)
- 2 - Mounting arm for wall mounting (1)
- 3 -Cable glands preinstalled (2)
- 4 - Camera mounting plate (1)
- 5 - 1/4" dia x 3/8" hex bolt hardware pack for camera mount (1)
- 6 - #8 Screws S/S to fasten camera plate (6)
- 7 - Cable plug to seal unused port (1)
- 8 - Humidity control pack (in COOLDOME option only)(1)
- 9 - Power supply S-250 (in COOLDOME option only)(1)

Included in S-Type Package

- Camera
- Installation tools
- Wall mounting bolts & hardware
- Pole mount, straps & strapping hardware
- Cabling for power or data

Tools recommended for Enclosure & camera mounting

Hand Tools



Drill & Bits



Pole Strapping Tools



Hand Tools

- #1 & #2 Phillips head screw driver
- #1 Flat Blade screw driver *or smaller*
- 7/16" Socket wrench, or box / open end wrench, or adjustable wrench
- 9/16" Socket wrench, or box / open end wrench, or adjustable wrench
- Wire stripping tool

For Wall Mounting

- Drill and Bits for user supplied fasteners for wall mounting enclosure

For Pole Mounting

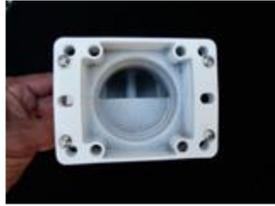
- Strapping / Banding Tools for user supplied Stainless Steel Pole Straps

Mounting S-Type Enclosure

Attaching Enclosure to Dotworkz Strong-Arm: Provided on S-Type equipment for Ring of Fire™ & COOLDOME models™



Locate & assemble four 1/4"-20 x 5/8" hex bolts with lock washers provided in hardware pack of Strong-Arm.



Turn over S-Type housing to show threaded base inserts, pre-install four 1/4" diameter bolts in Tilt head of Strong-Arm. Note orientation of tilt locking screws toward rear of S-Type. Firmly tighten all four bolts to secure tilt mount to S-Type housing.

Wall Mounting



Mounting to wall requires four user supplied fasteners. Mark pilot holes for four (4) mount holes either by marking with base, or using template guide on back page of this manual. Drill pilot holes and bolt arm to wall securely. Four holes on S-Type arm will accommodate up to 5/16" diameter bolts. Always assure there is strong backing material & the proper strong & secure to anchoring into aggregate material of wall is made.



Re-assemble Housing with Pan-Tilt onto Mount Arm by securing two side screws for pan adjustment. Secure & tighten both screws evenly, also adjust & tighten tilt screws into desired final position. Be sure all fasteners are evenly and securely tightened. After completing wiring, close access door to wire feed on mount, complete internal wire & cable installation, and close and seal housing top & wire feed seals.

Wiring Notes: Always consult and follow all local and applicable electrical codes to install and service housing. Always shut off power before installation and follow all applicable safety practices and guidelines. Only qualified electrical technicians should prepare & service wiring. Fully read & understand all installation guidelines before attempting to install wiring & housing.

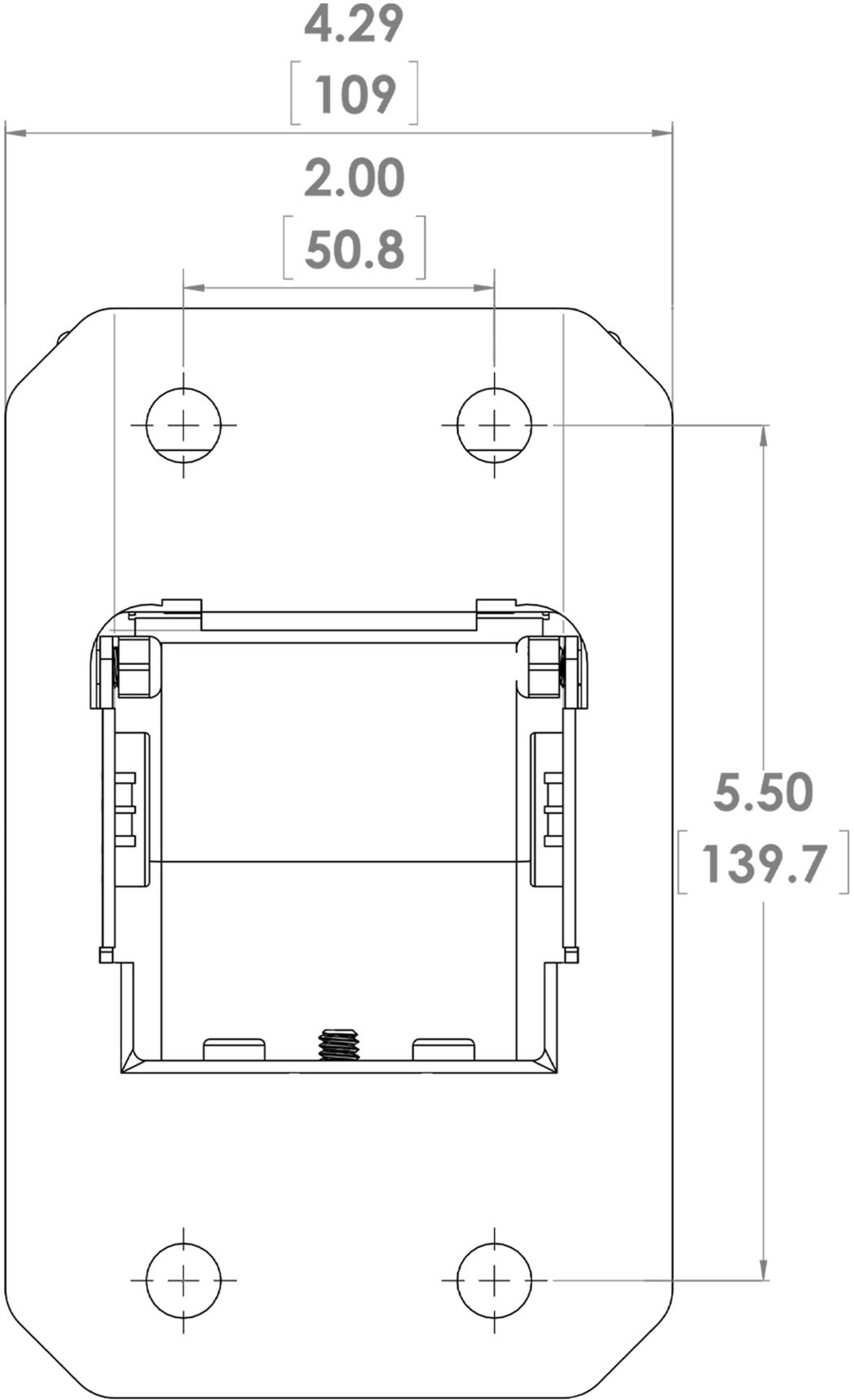
Site wiring can be installed behind, or installed to side of base of the S-Type Strong-Arm. Main body of this Arm has room for flush electric box, or cable feed thru wall to be mounted behind mounting base. Prepare wiring before installation of this housing mount, allowing strong backing material to secure Strong-Arm mount. Hole on side of mount arm and on bottom of S-Type housing are clearance holes that will accept 1/2" NPT fittings or PG13 equivalent.



Wire feed can be directly into hollow of Arm, with room for wire management within Arm body. Hole on side of mount arm, and feeds on bottom of S-Type housing are clearance holes that will accept 1/2" NPT fittings or PG13 equivalent. A plug is provided with Arm hardware if this feed hole is not used. Some customers will choose to provide & use liquid tight fittings & conduit to make the connection arm feed and S-Type enclosure.

Always create a drip loop between all external conduit or cable connections between fittings and S-Type Housing. All cable feeds must be sealed before S-Type housing is put into service to provide dry, electrically safe, and effective product performance.

S-Type Strong-Arm Mount
Wall Mounting Pattern



Pole Mounting S-Type with Strong-Arm



Pre-Install EZ-Lock Pole Mount #BR-MPM1 (sold separately) by following Instructions detailed in Installation Guide provided with pole mount bracket. Pole Mount requires user supplied stainless steel strapping to secure Pole Mount Bracket to the pole, strapping into final desired position. Locate four (4) 5/16"-18 x 1.5" Hex bolts & washers provided with EZ-Lock, and securely fasten base of S-Type Strong-Arm to Bracket.



Attach housing to arm as shown, tighten screws evenly but firmly on both sides of housing. Adjust housing to desired position using both pan & tilt adjustment fasteners and tighten all bolts evenly & securely, so housing is pointing into final position.



Wiring Notes:

Wire feed can be directly into hollow of Arm, with room for wire management within Arm body. Hole on side of mount arm, and feeds on bottom of S-Type housing are clearance holes that will accept 1/2" NPT fittings or PG13 equivalent. A plug is provided with Arm hardware if this feed hole is not used. Some customers will choose to provide & use liquid tight fittings & conduit to make the connection arm feed and S-Type enclosure.

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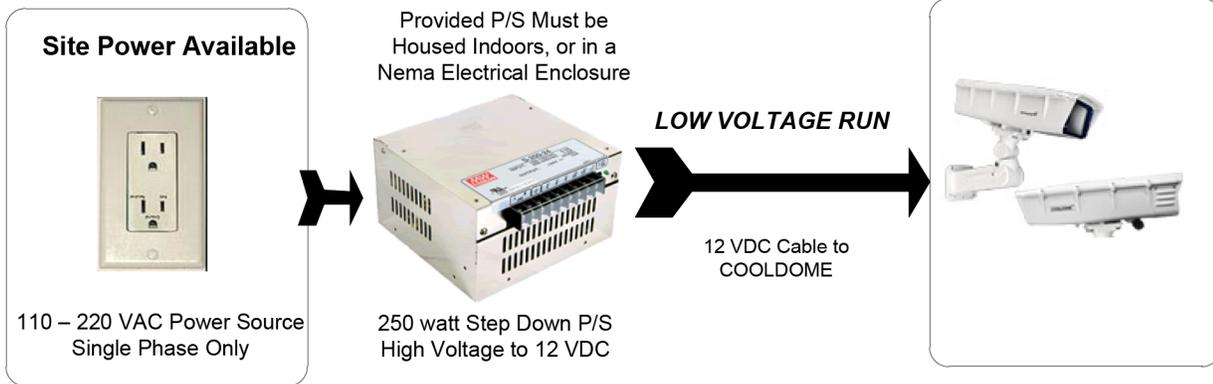
Firmly tighten wire feed nuts to create water tight seal around cabling. Only a single round cable bundle should be inserted per seal port for an effective seal.

For Installations using Liquid-Tight conduit, **please refer to Conduit Guidelines** provided near front of this manual.

Note: All internal wire feeds must be fully sealed at enclosure to provide satisfactory product performance, and a safe & moisture free installation.

Firmly tighten four (4) stainless steel Phillips screws on top of S-type lid to secure & seal enclosure to complete installation. Do not over-tighten.

COOLDOME™ Input Power Configuration: ST-CD-12VDC



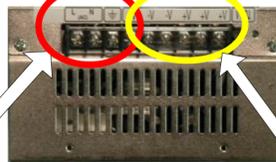
**Turn Off Power or leave power disconnected during Installation of All Wiring.
Follow all local and relevant electrical codes & standards.
Test all Wiring and confirm correct voltages before wiring up & powering up ST COOLDOME.**

**Select Input Voltage before
Hooking up Power Supply
110 VAC or 220 VAC**

**Rear of Power Supply with
Input Voltage Selector**



**Front of Power Supply with
terminal strip**



High Voltage A/C Input. Single Phase. USA Wiring Color Code

<u>Color</u>	<u>Symbol</u>	<u>Description</u>
Black	L	Line Conductor, AKA Live, Hot
White	N	Neutral Conductor
Green	G	Ground Conductor, Safety Ground

Low Voltage 12 VDC Output Terminals

<u>Color</u>	<u>Symbol</u>	<u>Description</u>
Red	+, V+	Positive VDC
Black	-, V-	Negative VDC

24V DC Low Voltage Wire Gage Selector Chart- Per Conductor Pair, Per Cooler

		12 amps						
		12 Volts D/C Voltage Drop For D2 & ST COOLDOME™						
Wire Gauge in AWG (below)		feet						
Distance (ft)>>		1.0	10.0	20.0	30.0	40.0	50.0	100.0
	4.0	0.006	0.062	0.124	0.186	0.248	0.310	0.620
	6.0	0.010	0.098	0.196	0.294	0.392	0.490	0.980
AWG	8.0	0.016	0.156	0.312	0.468	0.624	0.780	1.560
	10.0	0.025	0.248	0.496	0.744	0.992	1.240	2.480
	12.0	0.040	0.400	0.800	1.200	1.600	2.000	4.000
	14.0	0.063	0.628	1.256	1.884	2.512	3.140	6.280
		multiplier vdc drop/ft	drop (vdc)/ distance (ft)					
			Acceptable line drop for Wire Gauge and Distance					
			Excessive line drop for Wire Gauge					

Above includes 10 amps max. current draw on Static Cooled Enclosure, with 2 amps for max. camera pwr
Fused circuitry will allow up to 15 amps @ 12 vdc.

Tables above allow for 10% or less voltage line drop

		8 amps						
		24 Volts D/C Voltage Drop For D2 & ST COOLDOME™						
Wire Gauge in AWG (below)		feet						
Distance (ft)>>		1.0	10.0	20.0	30.0	40.0	50.0	100.0
	4.0	0.004	0.042	0.084	0.126	0.168	0.210	0.420
	6.0	0.007	0.066	0.132	0.198	0.264	0.330	0.660
AWG	8.0	0.011	0.105	0.210	0.315	0.420	0.525	1.050
	10.0	0.017	0.167	0.334	0.501	0.668	0.835	1.670
	12.0	0.027	0.265	0.530	0.795	1.060	1.325	2.650
	14.0	0.042	0.422	0.844	1.266	1.688	2.110	4.220
		multiplier vdc drop/ft	drop (vdc)/ distance (ft)					
			Acceptable line drop for Wire Gauge and Distance					
			Excessive line drop for Wire Gage and Dist					

Above includes 6.5 amps max. current draw on Cooled D2, with 1.5 amps for max. camera & accessry draw.
Fused circuitry will allow up to 15 amps @ 24 vdc.

Tables above allow for 10% or less voltage line drop

A handy website for custom Voltage drop on D/C current, an online calculator, is:

<http://nooutage.com/vdrop.htm>

or another great calculator site is:

http://www.altronix.com/app_notes/calc.php

COOLDOME™ Input Power Configuration: ST-CD-12VDC

Warning!!!: COOLDOME Enclosure runs on 12 VDC only! If high voltage is applied directly to COOLDOME™ enclosure, you will damage housing, void warranty, and create electrocution hazard that can be harmful or fatal. **Do not start wiring until you have fully read and understand these installation instructions.**

External Power Supply

The output of the S-250-12 external power supply, can be adjusted up and down 10%. It is recommended to keep the voltage at the S-Type adjusted to at least 11.5 vdc, but no more than 13.5 vdc. By running the enclosure higher than 13.5 vdc may cause premature fan failure. It is best to check and tune the voltage at the COOLDOME™ with a voltage meter at the time of installation, and use the adjustment screw, located on the S-250-12, to the right side of the terminal screws, to raise or lower the output voltage.

For all outdoor wiring, always use an outdoor rated wiring, or wiring in weather rated conduit, out from power supply, into the COOLDOME™. Follow all local and applicable wiring and safety standards.

Please keep D/C wire runs short, to reduce low voltage line drop. Also, the suggested wiring gauge table is provided on previous page to further prevent low voltage line drop, and to guide you in selecting the proper wire gauge for the dc run from the power supply to the ST-CD.

It is always advisable to use a drip loop on all wiring going directly into the ST enclosure, to reduce the risk of water entering and damaging internal components. All fittings and seals must be firmly tightened and sealed, before placing the ST-CD in service.

Inside the ST-CD we have provided a convenient Screw cage clamp style terminal blocks to wire the 12 vdc positive (V+), and the 12 vdc Negative (V-) terminal. Please strip the insulation off the last 3/8" of the wires and fasten wiring securely to terminal, using a small blade screwdriver to tighten the caging mechanism on the terminal blocks.

Please be especially attentive to wire using the Proper Polarity, so as not to damage the internal components, or damage your camera within.

LOW VOLTAGE RUN: Voltage Drop Table (shown on prior page)

Where we conservatively try to keep the voltage drop under 1.2 vdc over the low voltage direct current run. These multipliers are approximate, and voltage drop (Vd) is maximum at full 12 amp load at 12 vdc. This voltage drop is under fully loaded condition, when the cooling unit is engaged, and camera and all accessories are on. Voltage drop will be much less, if the current is not at full load.

Power Supply Specifications

Input Voltage: 90-132VAC/ 176-264VAC Selected by Switch
Frequency Range: 47- 63 HZ
Input Current @ Full Load(Typ.): 4A @115VAC, 2A @230VAC
Recommended Min. Circuit Breaker for 110VAC In: 10 A (type C)
Int. Electrical Working Temp*: -20 ~ +70C
Ext. Power Supply Output: 18A @ 12VDC up to 50C
Derate 0.5A/ deg. C over 50C

COOLDOME™ Specifications

Current Draw by COOLDOME @ 12VDC:
Active Cooler OFF: 0.4A/ Active Cooler Peak On: 10.5A
Active Cooler On Typ.: 9.0A/ (Cam. Draw Not Incl.)
MTBF: 238.9Khrs min. MIL-HDBK-217F(25C)



Reusable Desiccant Canister

The reusable desiccant canister contains forty grams of silica gel. This will prevent moisture buildup inside the COOLDOME™. Make sure to remove the canister from its foil envelope packaging before the COOLDOME™ is put to use.

There is a small window on the canister (white circle). Ensure that the crystals are blue. Occasionally, especially in humid environments, the canister may need to be serviced. If so, the crystals in the window turns pink, indicating the silica gel is saturated with moisture and can be reactivated by being placed in an oven at 300 °F for three hours or until the crystals turn blue again. The gel can be reactivated virtually an infinite number of times.

Generic Camera Installation



Open enclosure by unscrewing 4 captive philips screws and open hinge.
Remove camera mount plate by unscrewing four philips screw, and loosening 2 front camera plate screws.
One 1/4"-20 x 3/8" camera mount screw is provided on camera plate; organize camera parts to be installed.



Using 1/4" bolt provided, mating camera to mount bracket. Adjust camera to sit strait and slightly overhang front of mounting bracket. Gently but securely tighten bolt with camera pointing strait on mount plate.



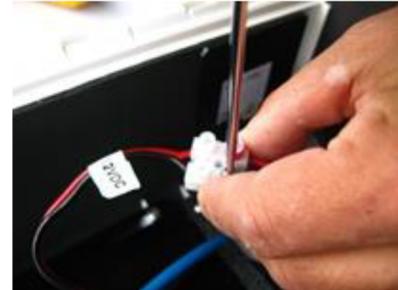
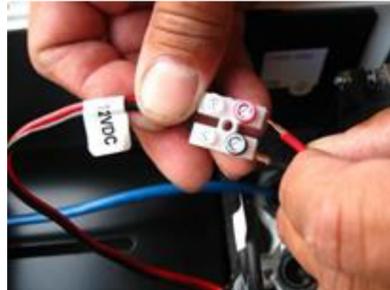
Re-install camera plate into S-Type, placing camera lens close to enclosure lens. For cameras that have adjustable focal lens', allow enough room for lens clearance. Re-install & Tighten all mounting plate screws.

S-Type COOLDOME Internal Wiring

S-Type COOLDOME
Before camera &
Power install



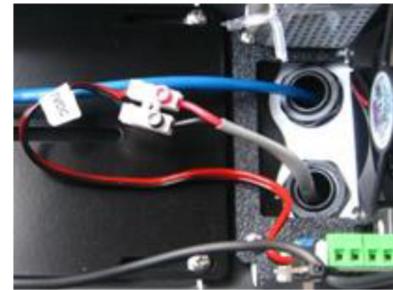
S-Type COOLDOME
after power & camera
installation- typical



Pull power and Data cables into housing thru Cable Gland strain relief seal ports near rear of S-Type enclosure. Strip back wires on Low Voltage 12VDC power cable brought into enclosure, observing DC polarity.

With a Volt Meter, Check voltage on wires pulled in from power supply, ***before attaching wires*** to assure Low Voltage 12 VDC input wires and proper polarity.

Hook up +12VDC to red terminal, and (-) DC ground wire to black terminal. Tighten firmly with small flat blade screwdriver.



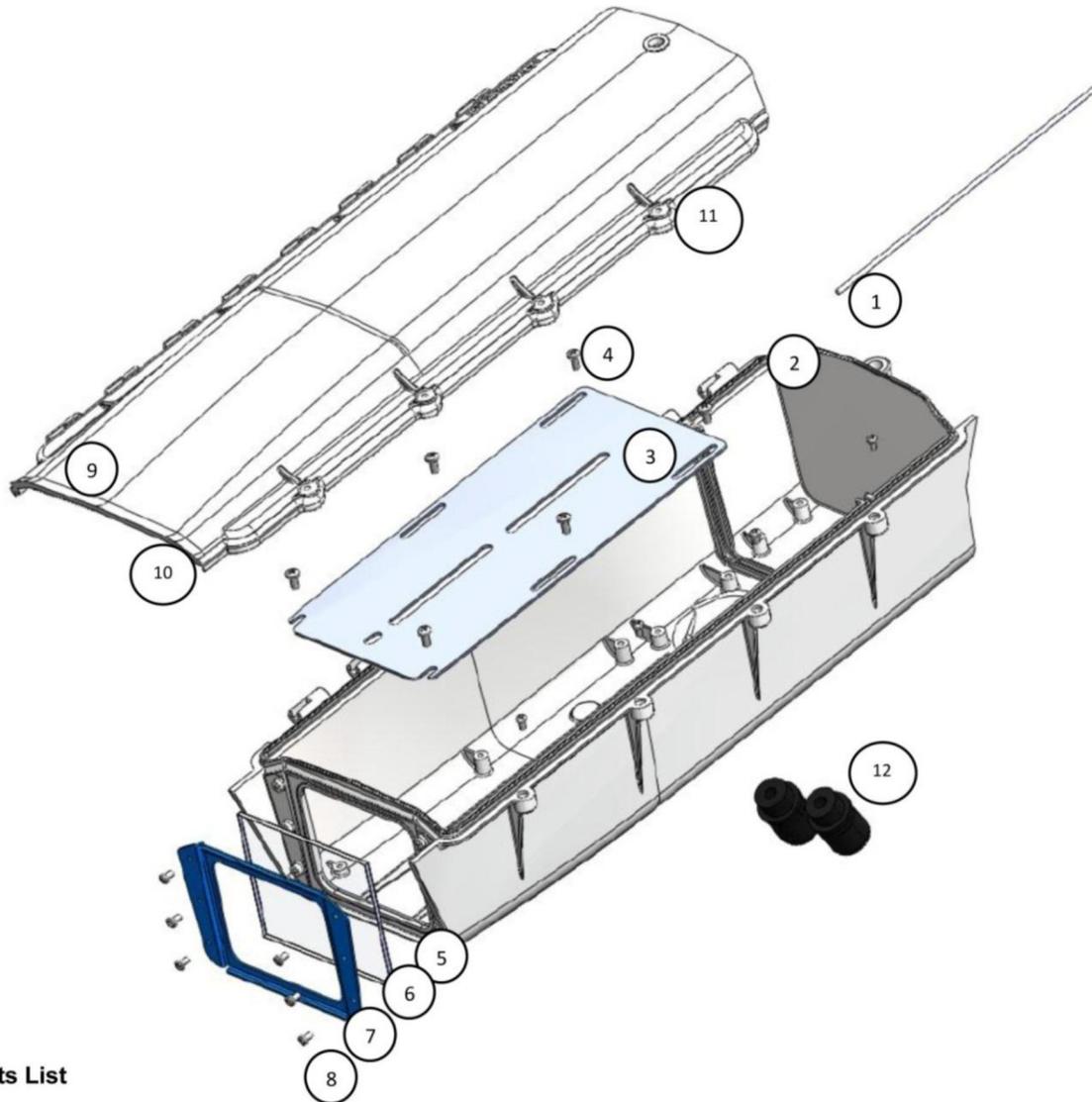
Hook up user supplied data cable to camera. Install power cable to camera. (See camera power page if your camera power cable is not compatible with the power cable shown above)



Be sure to tighten cable gland seals to assure a weather tight seal. Gently but firmly tighten four enclosure cover screws to fully seal enclosure.



S-Type Exploded Detail



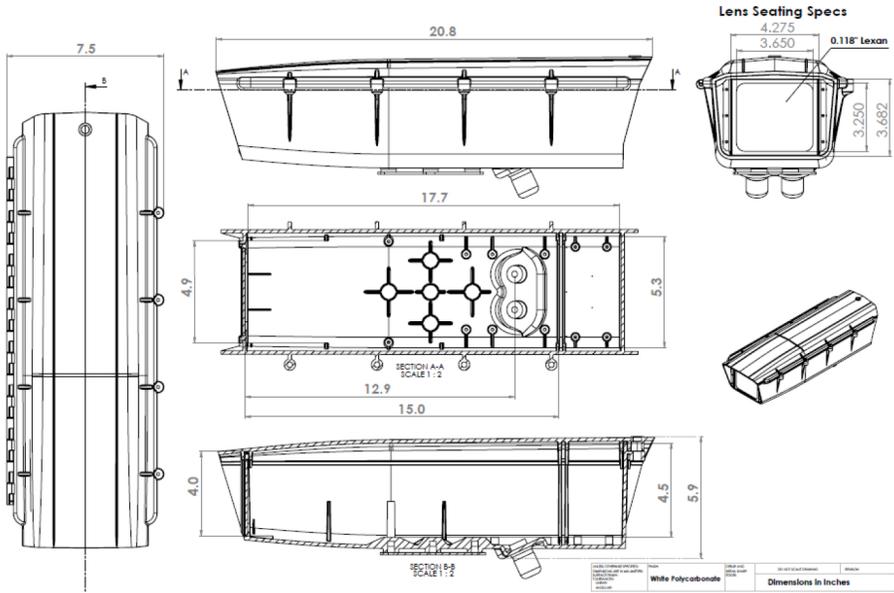
Parts List

1. S-Type Housing Base
2. S-Type Hinge
3. Camera Mount Plate
4. #8 Fasteners Screws (6)
5. Lens Seal Gasket
6. Lens .0125" Lexan
7. Lens Face Plate
8. Lens Fastener Screws (6)
9. S-Type Housing Cover
10. Main Seal Gasket
11. #10 Captive Machine Screws (4)
12. Cable Gland Seals ½" I.D. (2)

Dotworkz S-Type Enclosure (ST) Internal Usable by Integrated Environmental Models

Housing Type	Model	Internal Usable Space (Min. Approx) LxWxH
ST-BASE	BASE	17.75" x 5.25" x 3.50" (4.0"h @ Center lid)
ST-HB-MVP	Heater Blower	13.50" x 5.25" x 3.50" (4.0"h @ Center lid)
ST-TR-MVP	Tornado	13.50" x 5.25" x 3.50" (4.0"h @ Center lid)
ST-RF-MVP	Ring of Fire	13.50" x 4.50" x 3.50" (4.0"h @ Center lid)
ST-HB-SOLAR-12V	Heater Blower -Solar	13.50" x 5.25" x 3.50" (4.0"h @ Center lid)
ST-CD-12V (or -24V)	COOLDOME	13.00" x 5.25" x 3.50" (4.0"h @ Center lid)

ST-BASE



ST-CD

