

THE INSTALLERS / INTERGRATORS DREAM ENCLOSURE

PRODUCT INSTRUCTIONS

S-TYPE ENCLOSURE SERIES

MVP
MULTI VOLT PLATFORM



dotworkz[®]
systems

Includes MVP & COOLDOME™ models

Table of Contents

| | |
|---|-------|
| Limited Warranty Info | 0 |
| Product Installation Precautions, Warnings, and Installation Guidelines | 1 |
| Conduit Guidelines | 2 |
| Vent Plugs Installation Guide | 3 |
| Component Checklist for camera installation / Camera Mount Bracket..... | 4 |
| Recommended Tool List for Installation | 5 |
| 24V Input MVP Power | 6 |
| 110-220 VAC High Voltage Input MVP Power | 7 |
| Camera Power (Standard 12VDC Connector, NON-STANDARD & 24V CONNECTIONS) | 8 |
| Generic Camera & Bracket Installation | 9 |
| Wall Mounting Strong-Arm | 10 |
| Pole Mounting Strong-Arm | 11 |
| Wall Mounting Standard Arm | 12 |
| COOLDOME <i>External</i> Wiring Configuration | 13-14 |
| COOLDOME <i>Internal</i> Configuration..... | 15 |
| S-Type Exploded View | 16 |
| S-Type Standard Arm Mounting Template | 17 |
| S-Type Strong-Arm Mounting Template | 18 |



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-V1DEOLARM 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.



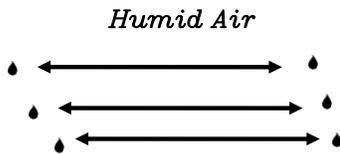
Dotworkz supplies two 1/2" diameter foam conduit plugs, that when installed, will assist in sealing off airflow in conduit feed thru, at cable entry inside of enclosure. Putty or Sealant can be used in conjunction with these plugs, to assure a full seal inside enclosure cable feed entry.

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

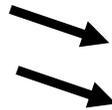
WARM/MOIST IN UNSEALED CONDUIT MOVES THRU CONDUIT FEEDS EXPAND & CONTRACT WHEN CONDUIT HEATS & COOLS WITH OUTSIDE TEMPERATURES



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



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.

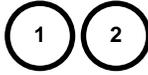


Component Check List & Standard Hardware: S-Type Models

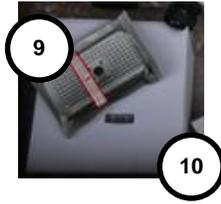


ST-HB-MVP Models
ST-HB-Solar
ST-TR-MVP models

or



ST-RF-MVP models
ST-CD models



Included in S-Type Package

- 1 - S-Type Enclosure Housing (1)
- 2 – Mounting Arm for Wall Mounting (1)
- 3 – Cable Gland Seals, pre-installed (2)
- 4 – Camera Mount Plate (1)
- 5 – ¼" dia x 3/8" Hex bolt hardware pack for camera mt (1)
- 6 - #8 Screws S/S to fasten Camera Plate within ST (6)
- 7 – ½" dia. Foam Plugs for conduit wire feed sealing (1)
- 8 – Rubber Plug for ½" I.D. NPT Hole Plugs to seal unused port (1)
- 9 - Humidity Control Pack (in COOLDOME option only) (1)
- 10 - Power Supply S-250 indoor style (in COOLDOME option only) (1)

Not Included in this Package

- * Camera
- * Installation Tools
- * Wall Mounting Bolts & Hardware
- * Pole Mount, Straps & Strapping Hardware
- * Cabling for Power or Data

S-Type Optional Equipment

- * Heater Blower Package
- * Heater Blower – Solar compatible 12VDC (under 7 watt)
- * Tornado Package
- * Ring of Fire Package for Extreme cold weather
- * COOLDOME Package
- * Outdoor Power Supply option for COOLDOME (IP67 rated PS)
- * Humidity Control Package
- * Insulation Kits
- * EZ-Lock Pole Mount Bracket Kit #BR-MPM1

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

ST-MVP Input Power Configuration for 24 VAC/ VDC

Site Power Available



110 – 220 VAC Power Source
Single Phase Only



Step Down Transformer
High Voltage to 24 VAC

Inside all ST-MVP is a Chassis similar to shown




Connections are made fully inside of ST

The MVP comes ready for 110-220VAC Input power

For 24 VAC/VDC inputs; Installer must take a moment to allow input configuration for Low Voltage Input. Use Blue 24 VAC Bypass Cable To hook up Power inside S-Type as shown below.

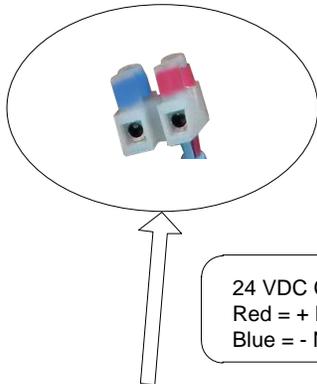
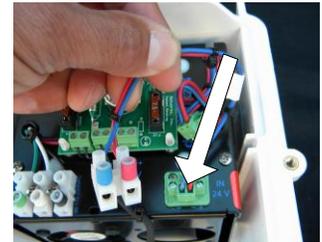
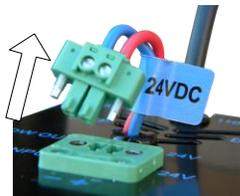
Locate 24V Bypass Cable in Hardware Pack Provided



Locate Green Plug on Chassis Then Unplug from panel mount socket, then push aside

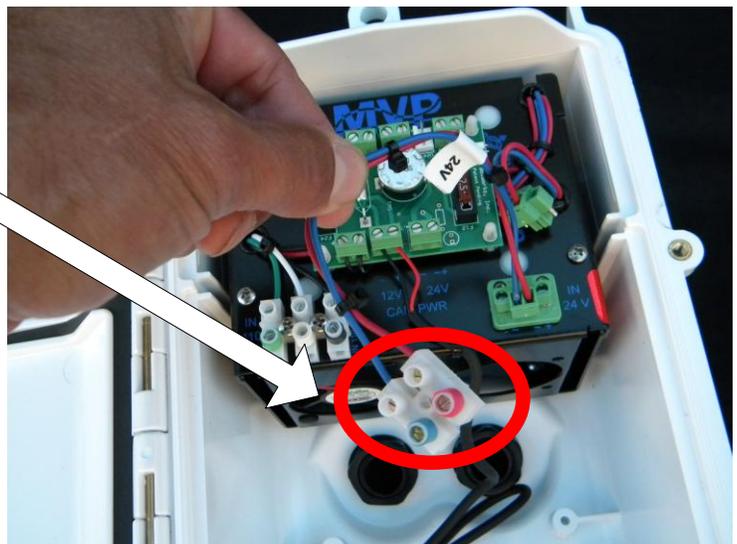


Then insert similar Plug on 24V Bypass Cable Tighten screws on plug to secure



24 VDC Color Code:
Red = + Positive
Blue = - Negative

Run 24V into S-Type Enclosure,
24 VDC: Connect wires to appropriate Color coded terminal shown above.
24 VAC: hook-up has no polarity



When all wiring is complete, secure screws from plug to panel mount, secure wiring being sure it does not interfere/ damage fan(s)

ST-MVP Input Power Configuration for 110 – 220 VAC

- * **Shut off** all power before and during wiring & servicing!
- * **All Wiring** must be done by a Qualified technician
- * **Observe** all local and applicable electrical codes

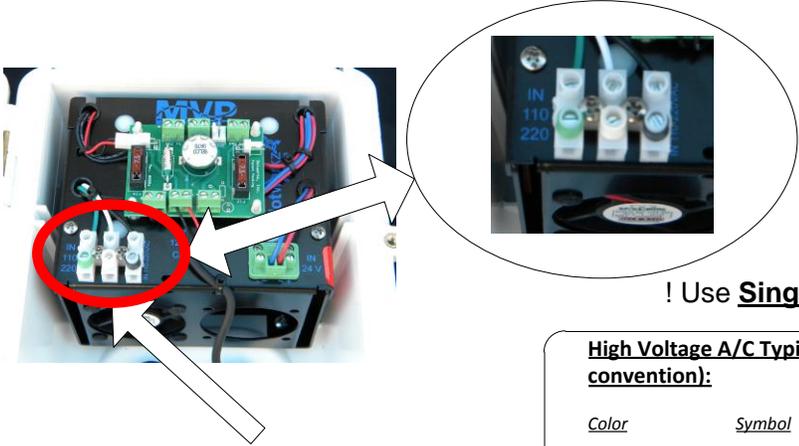
Use Color coded terminals for High Voltage Input to hook up inside ST-MVP

Site Power Available



110 – 220 VAC Power Source – Single Phase Only





! Use **Single Phase** Voltage Wiring **Only!**

Run 110-220 VAC into ST & Connect wires to appropriate Color Coded terminal shown here

High Voltage A/C Typical Conventions, single phase (USA wiring convention):

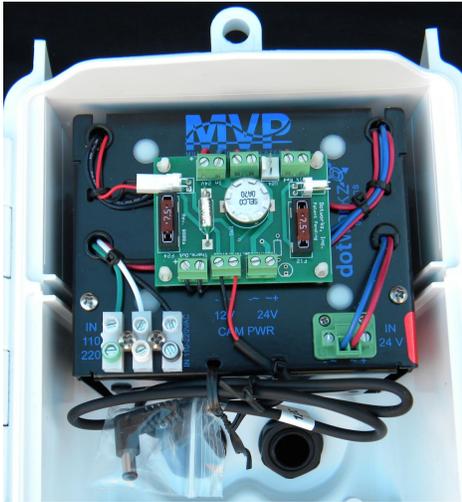
| Color | Symbol | Description |
|-------|--------|---------------------------------|
| Black | L | Line Conductor, aka: "Hot" wire |
| White | N | Neutral Conductor |
| Green | G | Ground Wire, Chassis Ground |

Input Specifications
 Input Voltage: 90-264 VAC, (127-370 VDC)
 Frequency Range: 47- 63 HZ
 Input Current @ Full Load(Typ.): 1.8A@115VAC, 1.0A@230VAC
 Recommended Min. Circuit Breaker: 6 A (type C)
 Int. Electrical. Working Temp*: -20 ~ +70C
 MTBF: 353.6Khrs min. MIL-HDBK-217F(25C)

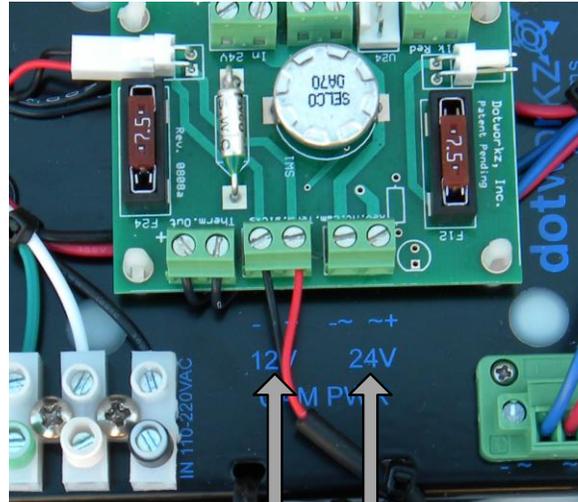
Power Available to Camera & Accessories (max.)
 MVP using 110/ 220 VAC input to S-Type enclosure

| Model | Using ONE Output | | Using BOTH Output Channels (12VDC & 24VDC) |
|---------------|-------------------------|------------------|--|
| | 12 VDC Output | OR 24 VDC | |
| Heater Blower | 25 watts | or 25 watts | 25 watts first channel, 5 watts on second Channel |
| Tornado | 25 watts | or 50 watts | 25 watts first channel, 25 watts on second channel |
| Ring of Fire | 25 watts | or 25 watts | 25 watts first channel, 5 watts on second channel |

Camera Power / Output Power for MVP



MVP Chassis in S-type Enclosure

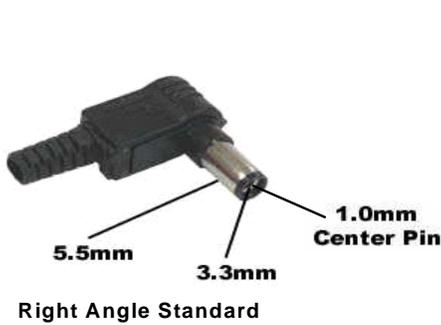


- 12VDC + - 24VDC +
Two Voltage Options are available
From the easy access screw terminal blocks

The MVP comes prewired with a 12VDC power cable ready to plug in to some of the most common camera models. However, if your camera has a different power need, the MVP can easily adapt to most camera power needs.

If your camera has a screw style terminal connector, you can cut off barrel connector, and strip wires to use as a jumper. If your camera takes 24 V input, then using a small screwdriver, move the wires to the 24V terminal on PCB, observing polarity when using DC voltages.

All D2 environmental enclosures come standard with a **12VDC Right Angle Barrel Plug (3.3mm x 5.5mm with a 1mm center pin)** for majority of the IP cameras on the market.



Right Angle Standard



Inline version

If your IP camera's power connector is different but still accepts up to ~ 13VDC for power, please see our section on **Camera Power Setup (NON-STANDARD CONNECTOR)** for instructions on how to power your camera. Below are pictures of typical NON-STANDARD CONNECTORS.



DC plugs with NO center pin



Terminal pin connectors

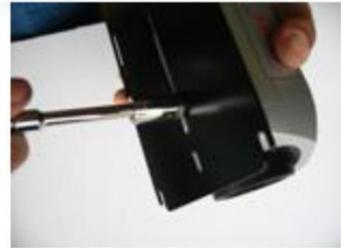


Terminal connector

Generic Camera Installation



Open enclosure by unscrewing 4 captive phillips screws and open hinge.
Remove camera mount plate by unscrewing 4 philips screw, and loosening 2 front camera plate screws.
1 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, mounting camera to mount bracket. Adjust camera to sit straight and slightly overhang front of mounting bracket. Gently but securely tighten bolt with camera pointing straight 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.

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.

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.

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.

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.

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.

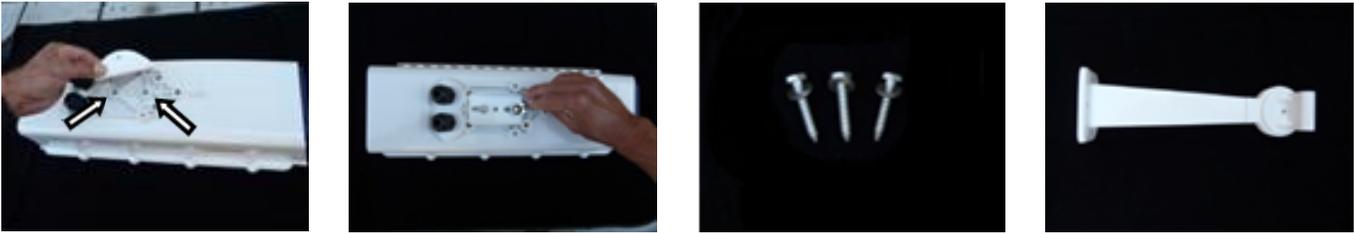
Firmly tighten four (4) stainless steel Phillips screws on top of S-type lid to secure & seal enclosure to complete installation. Do not over-tighten.

Wall Mounting S-Type with Standard Arm

Standard on Heater Blower & Tornado Models



Remove Tilt bracket by unscrewing two side screws with #2 Phillips screwdriver as shown, set aside screws that were removed. Locate two ¼"-20 x ½" bolts & washers provided in hardware pack for mount & mate to two rear-most threaded Inserts on bottom of S-Type.



Mount Tilt bracket to housing as shown, and fasten to bottom of S-Type as show. Tighten gently but firmly. Using *user supplied bolts and washers*, prepare mounting arm to mount to wall. Mount has 5 holes on wall baseplate, that will accept up to ¼" diameter bolts. Dotworkz recommends to use at least three wall fasteners for secure anchoring into wall material. Use appropriate anchors for wall material anchoring.



First Mark Holes in desired location, using wall mount, or template guide on last pages of this manual. Pre-drill Pilot holes for anchoring fasteners in marked positions, then fasten mount to wall securely as shown.



Using two side screws removed in first step, re-assemble Tilt bracket to wall mount as shown. Loosen & then re-tighten screws for Pan & Tilt adjustment to arrange housing to desired viewing angle. Securely tighten all fasteners to final position. Install Power and Data cables as desired thru ports on rear of S-Type enclosure. Always create a "drip-loop" for wire or cable that comes from above enclosure.

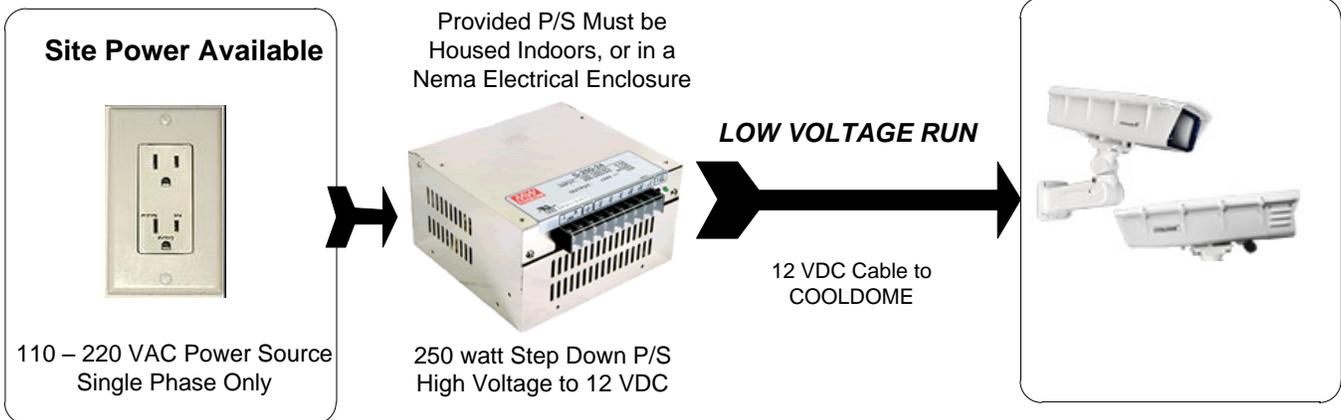


Use only one round cable per provided seal port, as enclosure is ready for one power, and one data cable. Provided seal ports will create a watertight, and airtight seal for round Cable bundles ranges from 0.20" to 0.48" diameters; seal nuts on each port must be securely tightened after cable is fully installed to provide full seal. Enclosure must be fully sealed to provide satisfactory performance, and provide a dry & safe installation.

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.*

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.

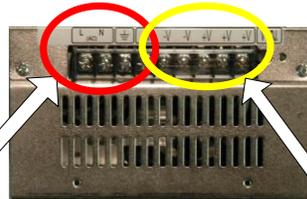
Test all Wiring and confirm correct voltages before wiring up & powering up ST COOLDOME.

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

| Color | Symbol | Description |
|-------|--------|---------------------------------|
| Black | L | Line Conductor, AKA Live, Hot |
| White | N | Neutral Conductor |
| Green | G | Ground Conductor, Safety Ground |

Low Voltage 12 VDC Output Terminals

| Color | Symbol | Description |
|-------|--------|--------------|
| Red | +, V+ | Positive VDC |
| Black | -, V- | Negative VDC |

LOW VOLTAGE RUN: Wire Gauge Chart for ST & D2 CD – 400 BTU Cooler

12 Volts D/C Voltage Drop for Dotworkz D2 Cool Dome

Wire gauge
In AWG (below)

| Distance (ft)>> | 1.0 ft | 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 |

Gauge Multiplier
Vdc drop/ft

Voltage drop (vdc)/ distance (ft)



Acceptable line drop for Wire Gauge and Distance



Excessive line drop for Wire Gauge and Distance

Above includes 9 amps @ 12 vdc for D2 Cool Dome typical current draw, with 3 amps for max. camera & accessory draw. 12 amps max.

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.

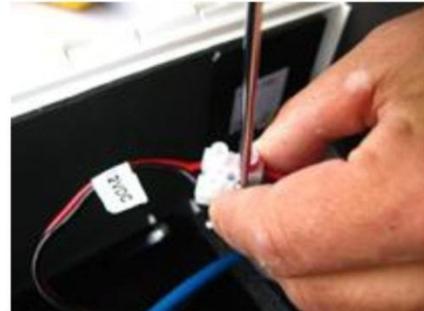
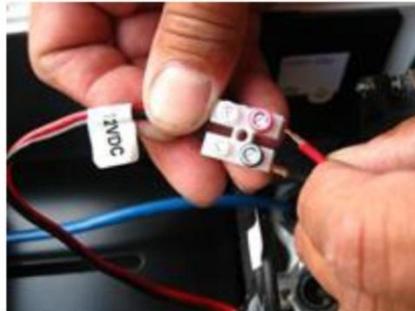
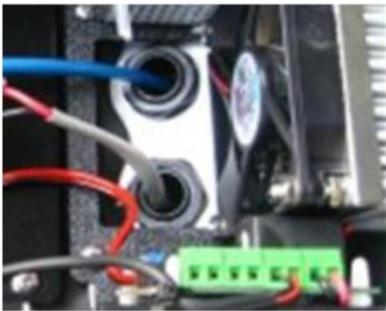
There is a small window on the canister (white circle). Ensure that the crystals are blue. Occasionally, especially in humid environments, the canister may need to be serviced. If so, the crystals in the window turns pink, indicating the silica gel is saturated with moisture and can be reactivated by 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.

S-Type COOLDOME Internal Wiring

S-Type COOLDOME
Before camera &
Power install



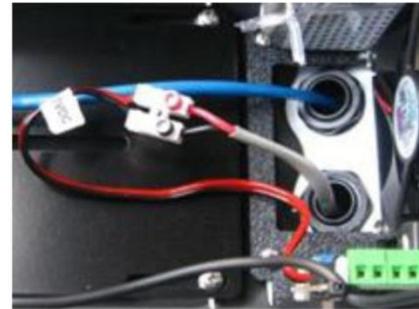
S-Type COOLDOME
after power & camera
installation



Pull power and data cables into housing through the 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.



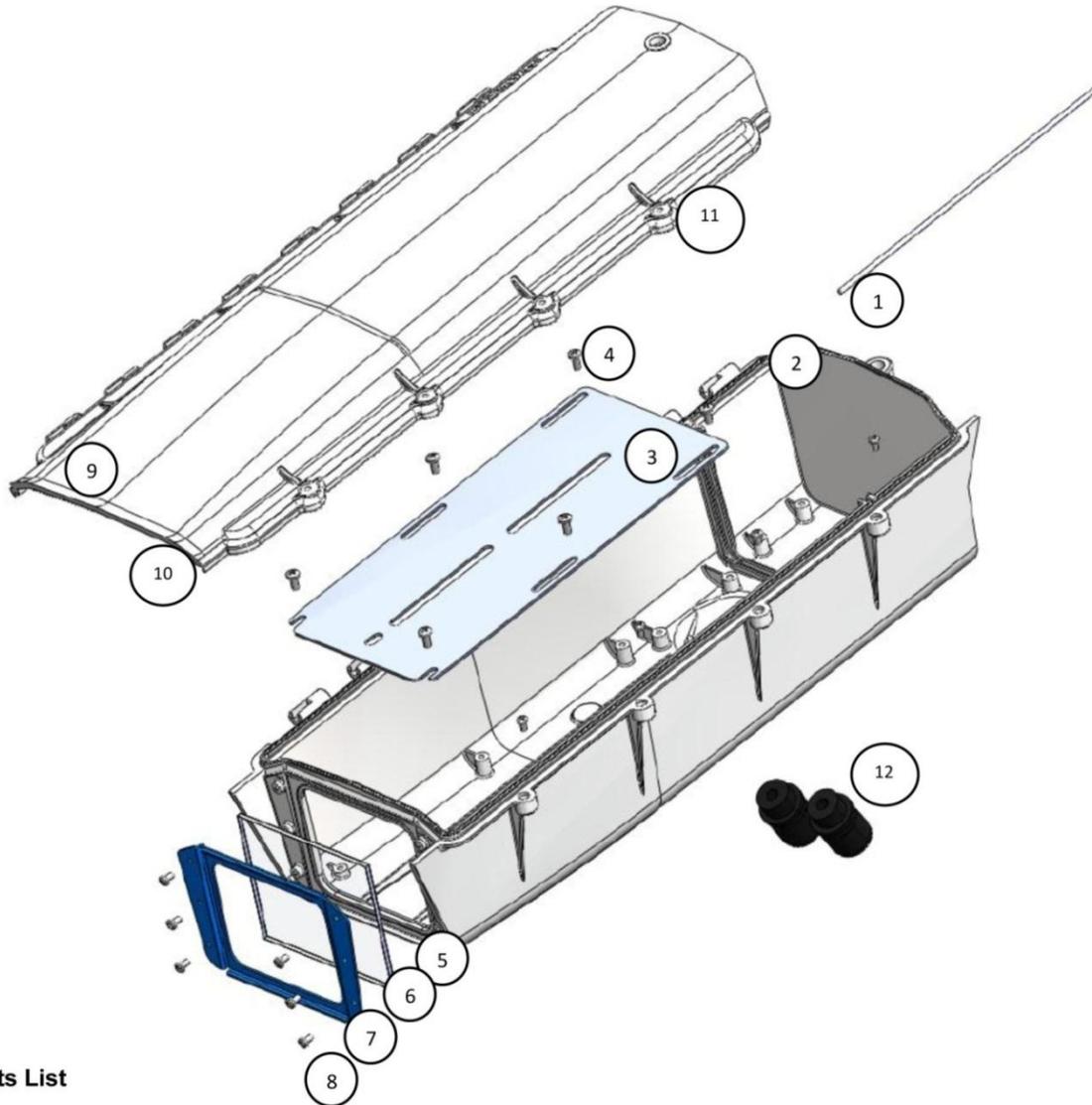
Hook up user supplied data cable to camera. Install power cable to camera. (See camera power page if your camera power cable is not compatible with the power cable shown above)



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



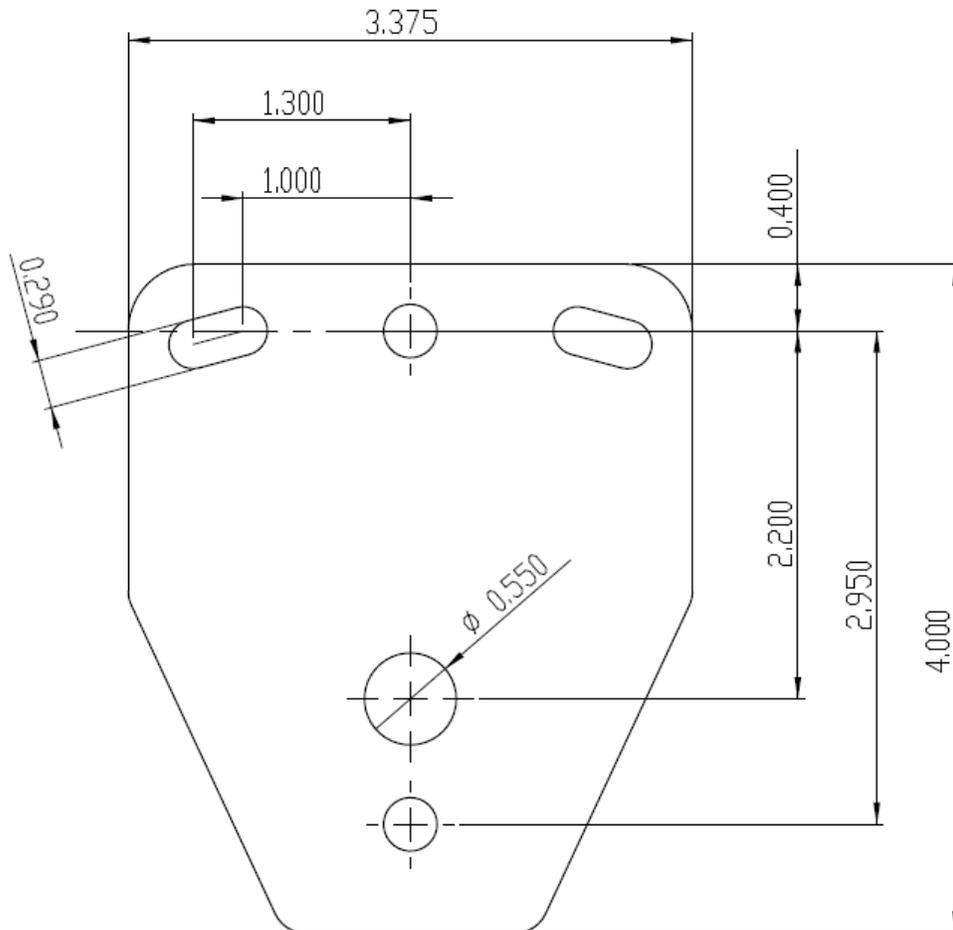
Parts List

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 1/2" I.D. (2)

S-Type Standard Arm



Mounting Pattern

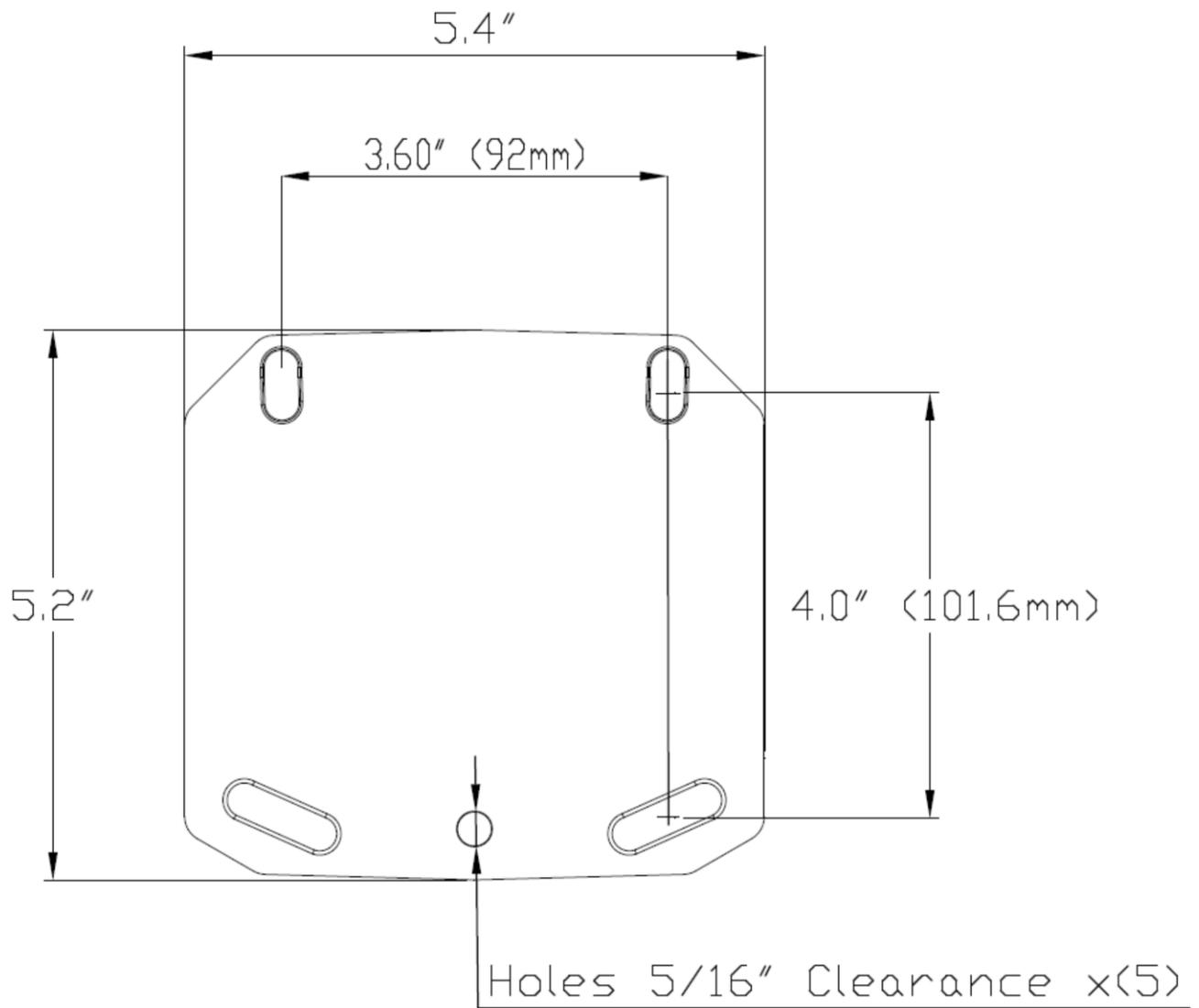


Holes: 1/4" diameter clearance

Not to Scale

S-Type Strong-Arm Mount

Wall Mounting Pattern



Not to Scale