Quick Start Guide for the MVSS Camera

Document No. 90400-01274 REV. A

Tricom Research, Inc.
http://www.tricomresearch.com
17981 Sky Park Circle, Suite M, Irvine, CA 92614
Ph: (949) 250-6024 fax: (949) 250-6023

Revision History

Date	Description	Version
11/16/16	Release	Rev. A

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General Description

The MVSS camera is a 4 Megapixel (MP) Power Over Ethernet (POE), (or external 12V) IP camera assembly with I/O connections for external sensors and contacts. The MVSS camera is mounted in a sealed, rugged, nitrogen purged enclosure. The enclosure provides two side mounting points and a third bottom mounting point with a tripod compatible anti-rotation pin hole. The front of the camera includes a high-power IR illuminator and ambient light detector (sensor). The IR illuminator brightness is a function of the video brightness. The light sensor is only used to switch between the day and night modes of operation.

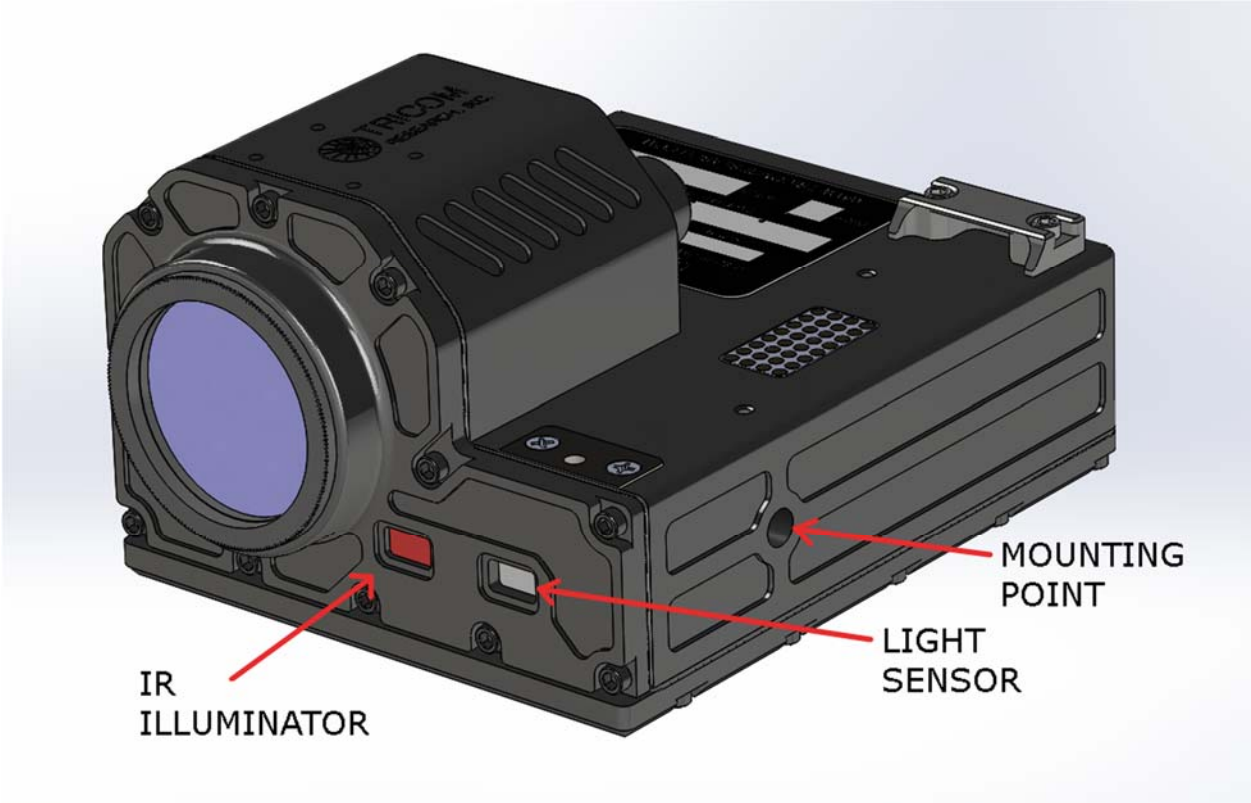

Figure 1. MVSS Camera Front View

The top and rear facing sides of the camera have a nitrogen inlet valve, a purge hole sealed with an O-ring screw, an auxiliary connector, and the internet and control interface connector. The assembly is purged with nitrogen to remove moisture that could lead to condensation on the lens and protective UV window. The UV window is a standard 34 mm diameter filter lens with silicone adhesive around the circumference for waterproofing. Further, there is a desiccant inside the assembly to ensure dryness.

The auxiliary connector provides for a 12V input and for dry contact inputs and outputs that are used in conjunction with the MVSS radio and base station.

The interface connection provides the Ethernet connectively (with 802.3af POE) and connects the auxiliary signals from the aux connector to the MVSS radio on the unused Ethernet conductors.

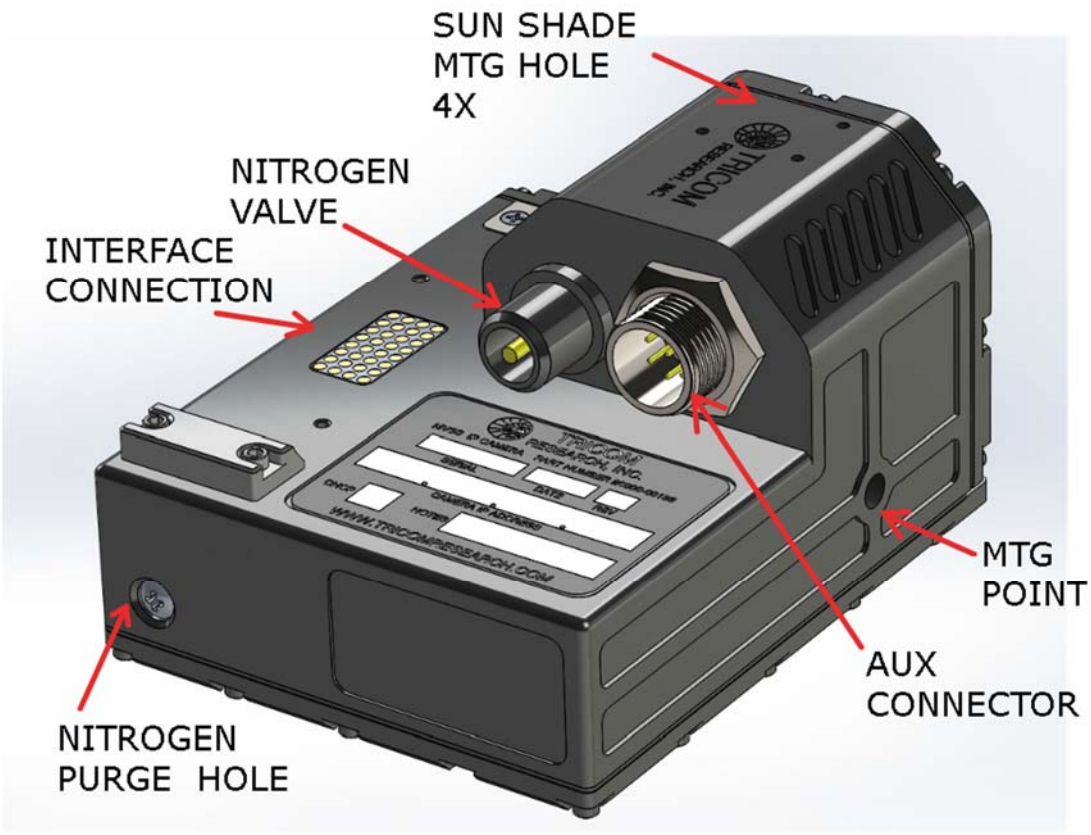

Figure 2. MVSS Camera Rear View

The MVSS camera is an ONVIF compatible IP camera configured for the MVSS radio and base station. Camera settings may be accessed through Internet Explorer with the appropriate plug-ins. At this time other browsers may provide unreliable operation. The camera may be set as DHCP or static IP.

Note that the MVSS camera initially ships with the default log in credentials of log in name “user” and password “mvsscam[serial number]”. For example, if the serial number stamped on the name plate is 12345 the default password would be “mvsscam12345” without the quotation marks.

The interface connector contains an RJ-45 connector so that the back shell of the cable can be removed and the Ethernet cable replaced. The Ethernet cable shipped with the system is a heavy duty double shielded CAT-6 cable, but any Ethernet cable should work within certain limitations. The cable chosen provides excellent physical durability as well as RF shielding. If the cable is replaced with a different diameter cable the strain relief and environmental seal around the cable may not engage properly. Care should be taken to not damage the connector gasket if the cable is replaced.

There are three PCB jumpers inside the connector housing, see Figure 3. These jumpers set configurations for the MVSS Radio. Care should be taken if these jumpers are changed from the factory configuration. The jumpers should be set the same at both ends of the cable to avoid confusion. The jumpers do not have an effect on the MVSS camera and are only used by the MVSS Radio. A jumper setting table is shown below, see Table 1.

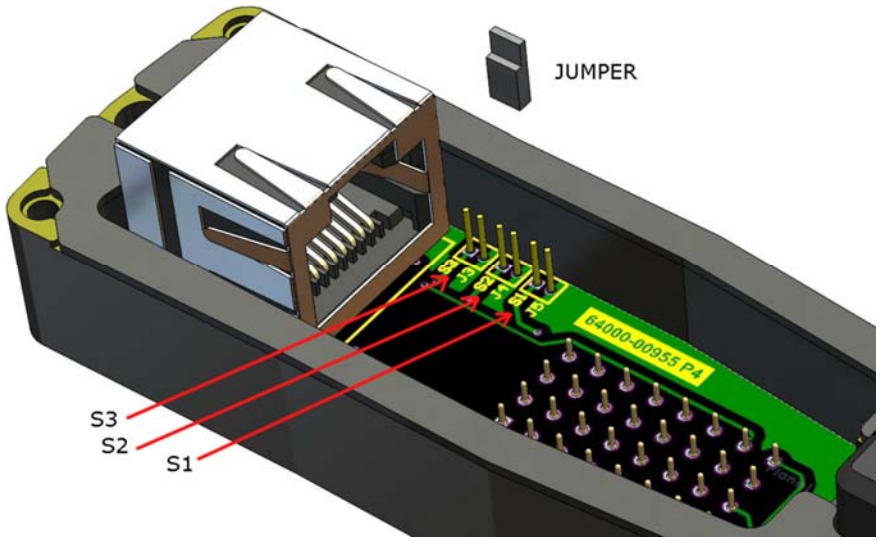

Figure 3. MVSS Camera Cable Jumper Location

SW1	SW2	SW3	
○ ○	○ ○	○ ○	ETHERNET TO J1 POE ON
○ ○	○ ○	● ●	ETHERNET TO J1 POE OFF
○ ○	● ●	○ ○	ETHERNET TO J3 POE OFF
○ ○	● ●	● ●	ETHERNET TO J3 POE ON
● ●	○ ○	○ ○	ETHERNET TO J3 POE OFF EXTERNAL SWITCH MODE
● ●	○ ○	● ●	RESERVED
● ●	● ●	○ ○	RESERVED
● ●	● ●	● ●	RESERVED

Table 1. MVSS Camera Cable Jumper Truth Table

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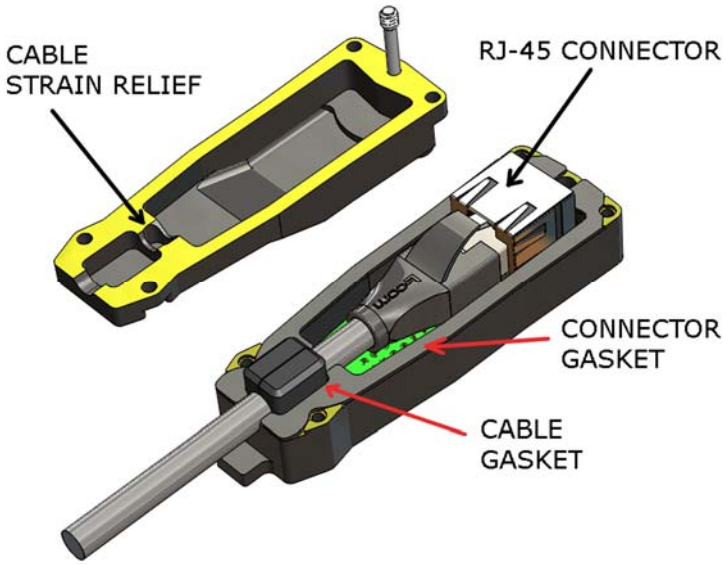

Figure 4. MVSS Camera Cable enclosure

The Auxiliary connector provides for a +12V 1A input to the camera if POE is not provided (auto switching between POE and external voltage is provided) and brings interface pins from the MVSS radio through the Ethernet cable out for use in various installations.

AUX Connector pin out

The connector on the MVSS camera is Conxall/Switchraft part number SF282-8PG-3ES (Digikey SC1359-ND). The mating connector (cable end) is Conxall/Switchraft part number SF6282-8SG-520 (Digikey SC1346-ND)

PIN 1	+12 VDC
PIN 2	GND
PIN 3	RADIO CONTACT CLOSURE 1 (RJ-45 PIN 4)
PIN 4	RADIO CONTACT CLOSURE 1 RETURN (RJ-45 PIN 5)
PIN 5	DOOR CONTACT INPUT
PIN 6	DOOR CONTACT GROUND
PIN 7	N/C
PIN 8	N/C

Pins 3 and 4 are for relay contacts located within the MVSS radio so that the MVSS base station can control an item at the camera location through the radio network. They pass from the MVSS radio through the Ethernet cable and out the MVSS camera through the AUX connector

Pins 5 and 6 are connected to the coil and ground of a relay internal to the MVSS camera. The relay contacts are routed through the MVSS camera through the Ethernet cable to the MVSS radio, where they can be read by the MVSS base station. If Pins 5 and 6 are shorted together, Pins 7 and 8 on the RJ-45 cable will be open circuited. Likewise, if pins 5 and 6 on the AUX connector are open circuit, Pins 7 and 8 on the RJ-45 will be shorted together.

Additional information is provided in the following drawings.

Drawings

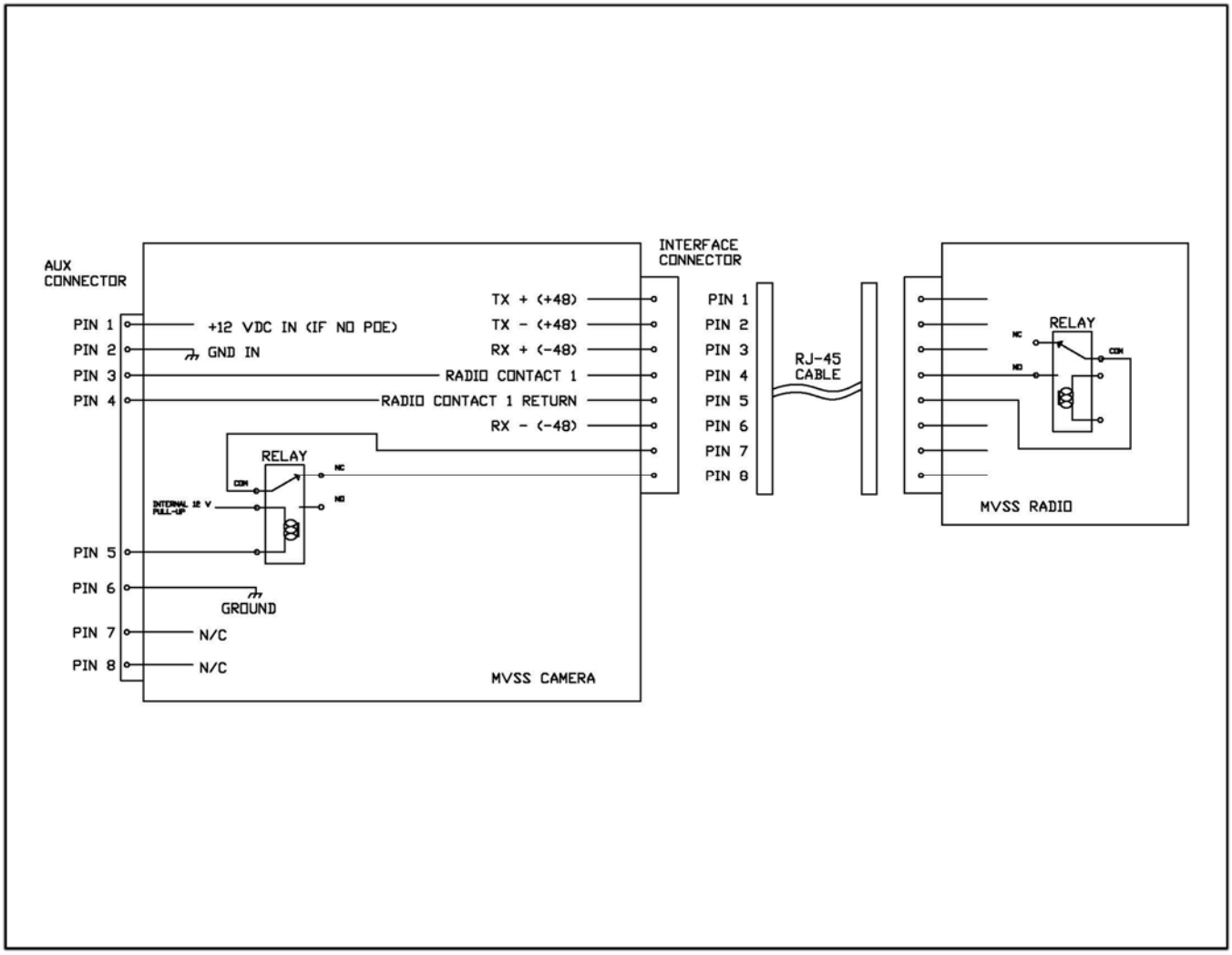

Figure 5. MVSS Input / Output Relay Connections Drawing

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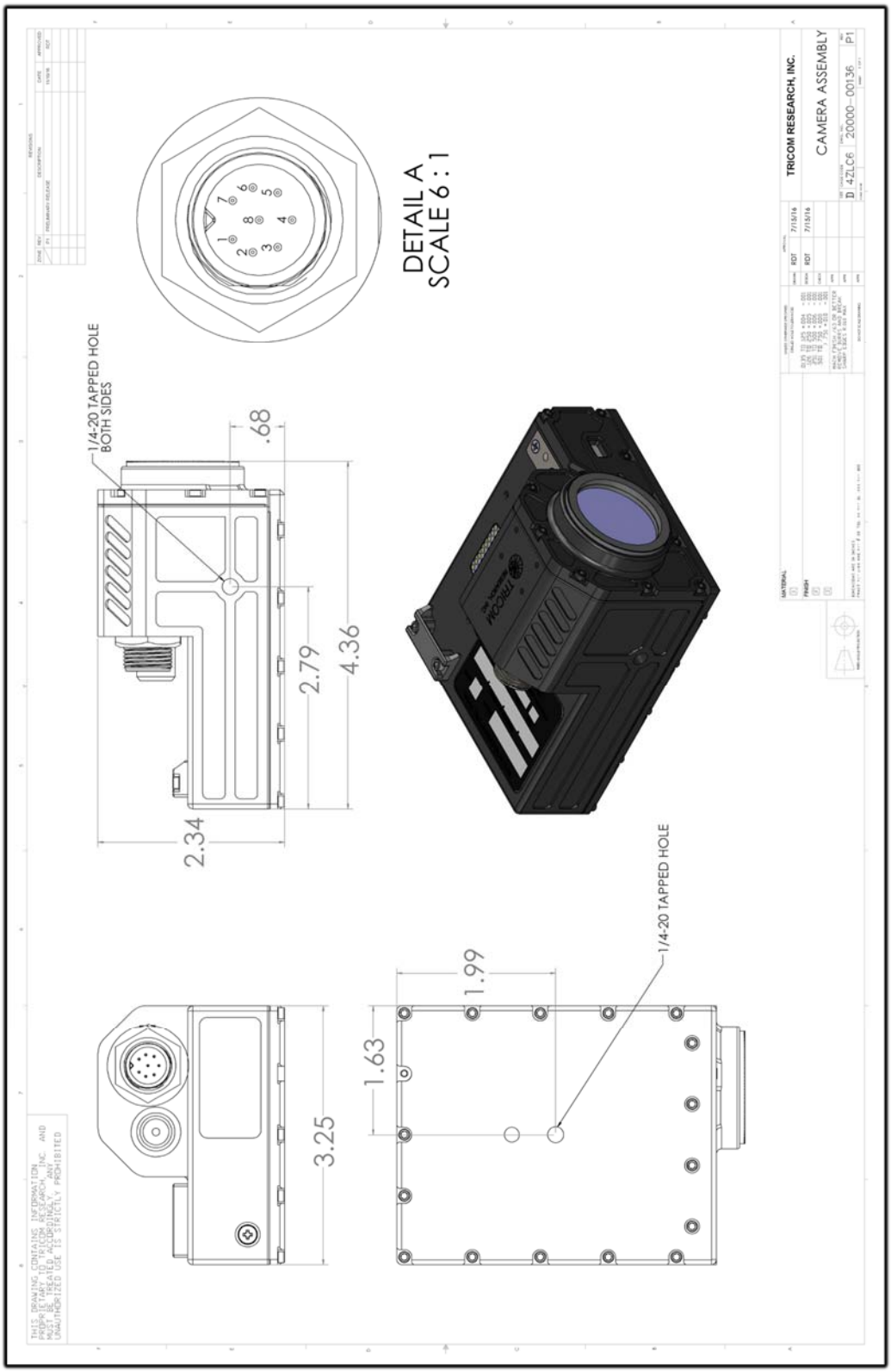
Figure 6. MVSS Camera Outline Drawing



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