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OM-ESW-100 SERIES
Unmanaged Industrial Ethernet Switches

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OM-ESW-100 SERIES – UNMANAGED INDUSTRIAL ETHERNET SWITCHES

- UNMANAGED SWITCH REQUIRES NO CONFIGURATION
- SUPPORTS 10/100 MBPS NETWORKS
- AUTO HALF/FULL DUPLEX NEGOTIATION
- REDUNDANT POWER INPUTS
- AUTO-CROSSING DETECTION SUPPORTS STANDARD AND CROSSOVER ETHERNET CABLES

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c UL us LISTED 65SN

FOR USE IN HAZARDOUS LOCATIONS:
Class I, Division 2, Groups A, B, C, and D
or unclassified or non-hazardous locations only.

GENERAL DESCRIPTION

The **OM-ESW-100** series is a range of compact IEEE 802.3 layer two network switches with automatic speed, duplex and cable sensing. The series features ultra-robust construction, capable of withstanding environmental extremes for use in mission critical applications.

These affordable, Class I, Division 2 switches feature redundant power inputs, hardened metal enclosures, and 16 kV port protection. Each switch is capable of auto negotiating 10/100 Mb and half/full duplex communications.

SAFETY SUMMARY

All safety related regulations, local codes and instructions that appear in the literature or on equipment must be observed to ensure personal safety and to prevent damage to either the instrument or equipment connected to it. If equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

CAUTION: Risk of Danger.
Read complete instructions prior to installation and operation of the unit.

WARNING - EXPLOSION HAZARD - SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2
ALERTE - RISQUE D'EXPLOSION - REMPLACEMENT D'UN COMPOSANT PEUT EMPÊCHER LA CONFORMITÉ DE CLASSE I, DIVISION 2.

WARNING - EXPLOSION HAZARD - DO NOT DISCONNECT EQUIPMENT WHILE THE CIRCUIT IS LIVE OR UNLESS THE AREA IS KNOWN TO BE FREE OF IGNITABLE CONCENTRATIONS.
ALERTE - RISQUE D'EXPLOSION - NE DÉBRANCHEZ PAS TANT QUE LA CIRCUIT EST SOUS TENSION SAUF SI LA ZONE EST CONNUE POUR ÊTRE NON DANGEREUX.

WARNING - EXPLOSION HAZARD - DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR AREA IS KNOWN TO BE NON-HAZARDOUS.
ALERTE - RISQUE D'EXPLOSION - NE PAS REMPLACER LE DISPOSITIF QUE L'ALIMENTATION EST COUPÉE OU QUE LA ZONE EST CONNUE POUR ÊTRE NON DANGEREUX.

For **OM-ESW-108**: Use 60/75°C rated copper wire, (0.22Nm) 2 inch-lbs. tightening torque for field installed connectors.

For **OM-ESW-104 & OM-ESW-105**: Use 95°C rated copper wire, (0.22Nm) 2 inch-lbs. tightening torque for field installed connectors.

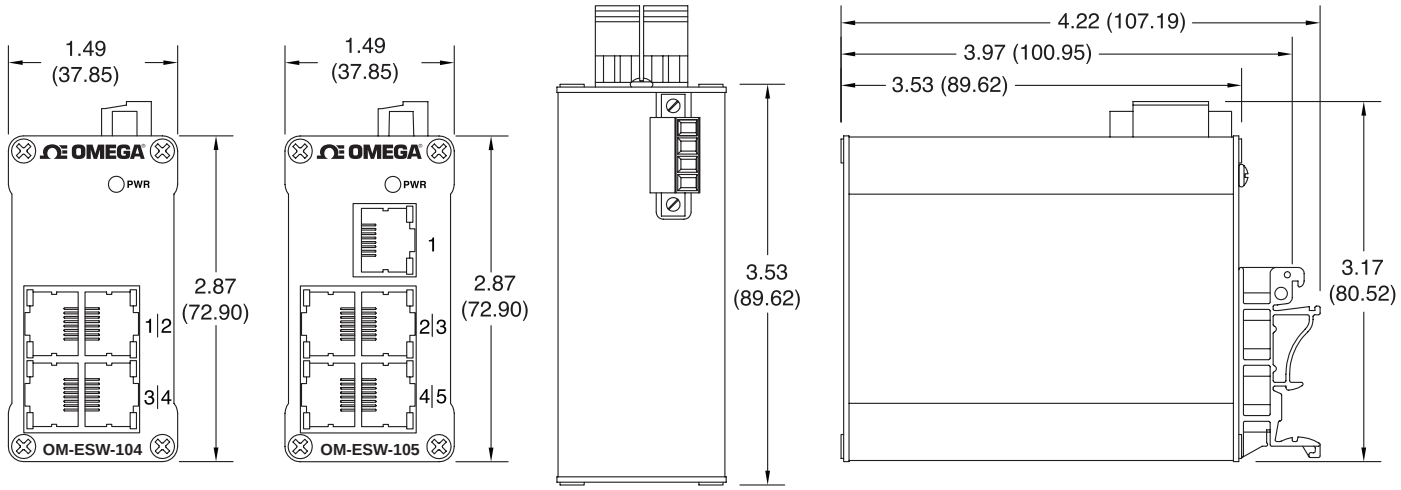
SPECIFICATIONS

1. **POWER**: 10-30 VDC
   OM-ESW-104/OM-ESW-105: 215 mA max. @ 24VDC
   OM-ESW-108: 250 mA max. @ 24VDC
2. **LEDs**:

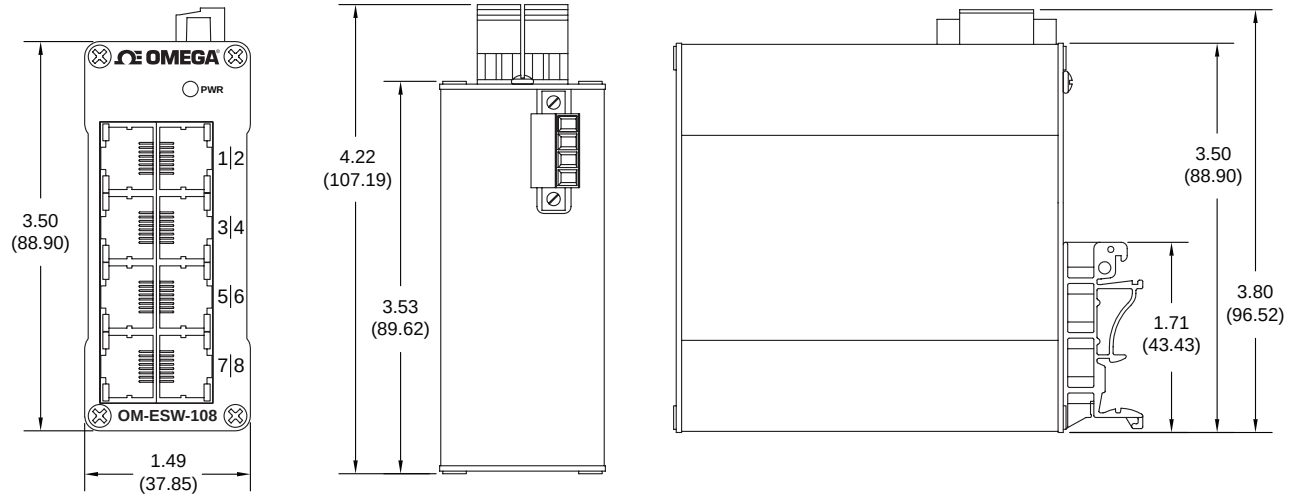
LED	COLOR	DESCRIPTION
⏻	ON	Power is Applied.
	OFF	Power is OFF.
LNK/ACT	ON	Link established, no Activity on cable.
	BLINKING	Link established, Activity on cable
	OFF	No link activity on cable.
SPD	ON	Link is 100Mbps.
	OFF	Link is 10Mbs.

3. **ENVIRONMENTAL CONDITIONS**:
   Operating Temperature Range:
   OM-ESW-104/OM-ESW-105: -40 to +80 °C
   OM-ESW-108: -40 to +70 °C
   Storage Temperature Range: -40 to +85 °C
   Operating Humidity: 10-95%, non-condensing
   Altitude: Up to 3000 meters.
4. **CONSTRUCTION**: Brushed aluminum housing
5. **CONNECTIONS**:
   Power: Removable wire clamp screw terminal block.
   Wire Gage Capacity: 28 AWG to 16 AWG
   Torque: 2 in/lb (0.22 Nm)
   Ethernet: RJ-45 UTP ports
6. **MOUNTING**: Snaps onto standard DIN style top hat (T) profile mounting rail according to EN50022 -35 x 7.5 and -35 x 15.
7. **CERTIFICATIONS AND COMPLIANCES**:
   UL Listed OM-ESW-104, OM-ESW-105, OM-ES W-108
   Safety: Suitable for use in Class I, Division 2, Groups A, B, C and D Hazardous locations, or non-hazardous locations only.
   Immunity to Industrial Locations:
   EMI: EN61000-6-4, EN55011 - Class A
   FCC Title 47, Part 15, Subpart B - Class A
   ICES-003 – Class A
   EMS: EN61000-6-2
   EN61000-4-2 (ESD)
   EN61000-4-3 (RS)
   EN61000-4-4 (EFT)
   EN61000-4-5 (Surge)
   EN61000-4-6 (Conducted Disturbances)
8. **WEIGHT**:
   OM-ESW-104/OM-ESW-105: 0.6 lbs. (0.27 Kg)
   OM-ESW-108: 0.7 lbs. (0.31 Kg)

DIMENSIONS In inches (mm)



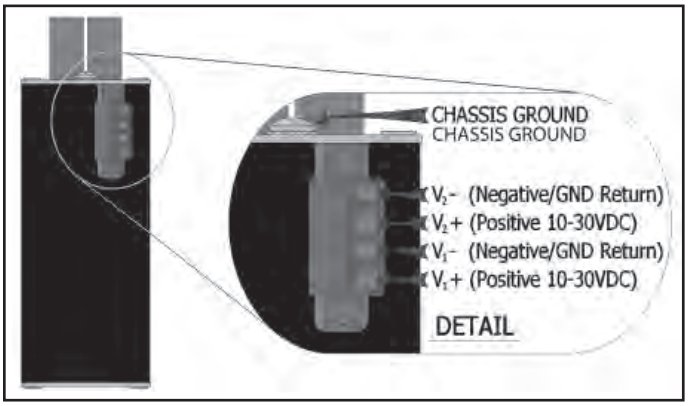
DIMENSIONS In inches (mm)



POWER

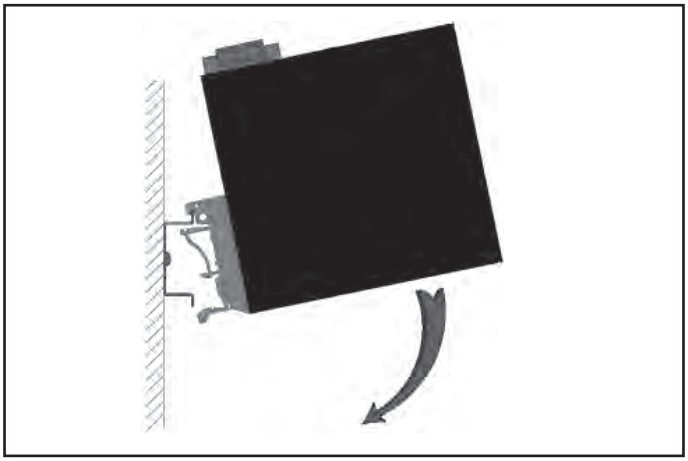
Either V_1 or V_2 can be connected to power for minimal operation. For redundant power operation, V_1 and V_2 plugs must be connected to separate DC Voltage sources. Use wire sizes of 16-28 gauge.

NOTE: Must use an NEC Class 2 or Limited Power Source (LPS) rated power supply.

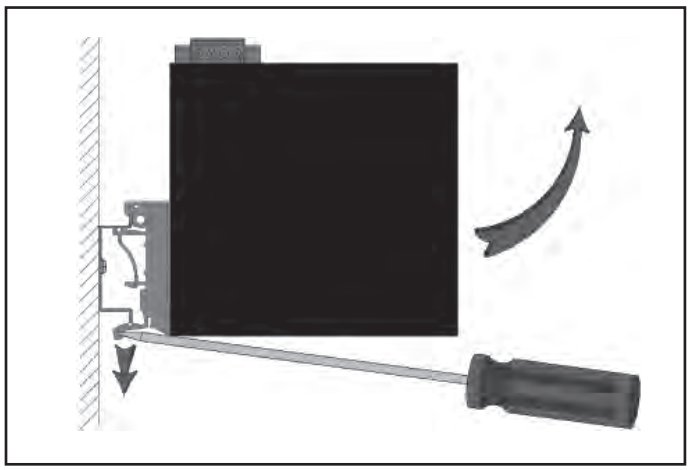


MOUNTING

To install the plastic clip units to 35mm industrial DIN rail, place the top edge of the included mounting bracket on the back of the unit against the DIN rail at a 15° angle as shown. Rotate the bottom of the unit to the back (away from you) until it snaps into place.



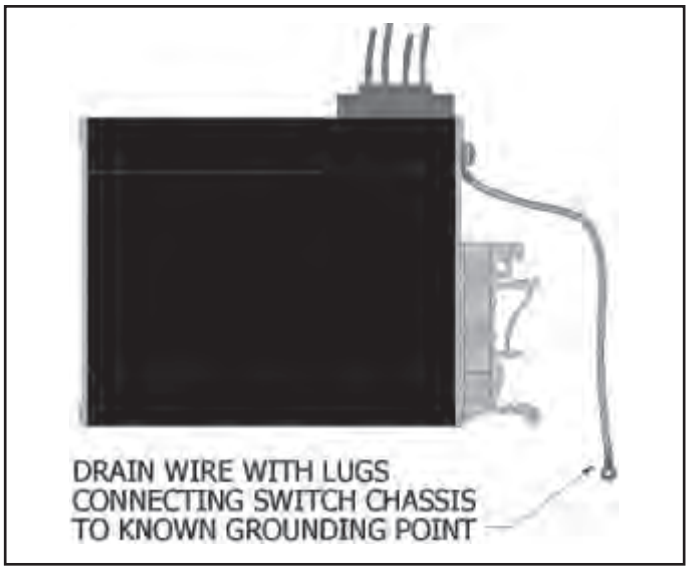
To remove the unit from the DIN rail, place a flat head screwdriver into the release clip found at the bottom of the unit, and apply downward force on the clip until it disengages the bottom of the unit from the DIN rail. Rotate the bottom of the unit towards you and up at an approximate 15° upward angle to completely remove the unit.



OM-ESW-100 series switches are designed to be grounded, but the user has been given the flexibility to float the unit when required. The best noise immunity and emissions are obtained when the unit's chassis is connected to earth ground via a drain wire.

Users may run a drain wire & lug from the screw provided on the back face of the enclosure. In the event the provided grounding screw has been lost, care should be taken to limit the penetration of the outer skin by less than 1/4". Failure to do so may cause irreversible damage to the internal components of the switch.

Note: Ensure the power supply is grounded properly before applying power to the grounded switch. This may be verified by using a voltmeter to determine that there is no voltage difference between the power supply's negative output terminal and the chassis grounding point of the switch.



As an alternative grounding method, both V- legs of the power input connector are connected to the chassis internally on the PCB. Connecting a drain wire to earth ground from one of the V- terminal plugs will ground the switch and the chassis. The power leads from the power source should be limited to 3 meters or less in length.

If the use of shielded cables is required, it is generally recommended to only connect the shield at one end to prevent ground loops and interference with low level signals (i.e. thermocouples, RTD, etc.). Cat5e cables manufactured to EIA-568A or 568B specifications are required for use with **OM-ESW-100** series switches.

MADE IN USA

WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **37 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **three (3) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by the company will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY/DISCLAIMER language, and, additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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