

# MHDR Series Rugged HDMI Connectors

## RUGGED HDMI CONNECTOR FOR HARSH ENVIRONMENT APPLICATION, GENERATION 2

Amphenol's MHDR series HDMI Connectors serve many markets and applications across the globe including Automotive, Communications, Industrial, Medical and Military.

MHDR series is a line of Generation 2 ruggedized HDMI connectors with die cast housings and IP67 sealing, designed for Harsh Environment applications. MHDR series HDMI Connectors transmit digital and audiovisual signals, and mate with standard Type A HDMI plugs.

- IP67 environmental sealing protects against water and dust
- Die cast metal housings protect against mechanical damage
- Compact design saves panel space
- Operating temperature range from  $-55^{\circ}\text{C}$  to  $+105^{\circ}\text{C}$  for extreme conditions
- RoHS compliant to meet environmental standards

### FEATURES

- Internal and external seals made with flexible silicone rubber
- Die cast metal housings
- Improved thermal cycling performance
- Conductive silicone rubber panel gasket
- Receptacles mates with standard type A HDMI plug
- Wide variety of mounting and termination options
- Electrical performance complies with HDMI specification 2.0
- RoHS compliant



### TARGET MARKETS



### BENEFITS

- Excellent sealing to IP67 and higher protection over wide temperature range
- Protects equipment from water and dust incursion
- Mechanically rugged and stable to protect against shock, vibration and impact
- Prevents distortion
- Suitable for outdoor application with wide operating temperature range
- Provides enhanced EMI (Electromagnetic Interference) shielding performance
- Suitable for a wide variety of mating connectors which are readily available
- Replace virtually any existing standard connector using standard footprints and mounting hardware
- Supports 4K video up to 60 Frames per second
- Meets environmental, health and safety requirements

# TECHNICAL INFORMATION

## MATERIAL

- External Shell: Die Cast Zinc, Nickel Plated
- Housing Inserts: High Temperature Resistant LCP, Glass Reinforced, UL940V-0, Black
- Contacts: Copper Alloy Plated with 0.76um (30u") min Gold over 1.27um (50u") min Nickel on the Mating Area and 2.54um (100u") min Matte
- Internal Shield & Rear Shield: Tin over Nickel on the Contact Tails
- Panel Gasket: Stainless Steel, Passivated
- Internal O-ring: Conductive Silicone Rubber, Black Silicone Rubber, Beige

## ELECTRICAL PERFORMANCE

- Current Rating: 0.5A max. per contact (delta T < 30°C)
- Contact Resistance: 10mΩ max., Initial
- Insulation Resistance: 1000mΩ min.
- Dielectric Withstanding Voltage: 500 VAC rms (between adjacent contacts or contacts to ground)
- Differential Impedance: 100Ω ± 15%

## MECHANICAL PERFORMANCE

- Water & Dust Protection Level: Code IP67 per IEC 60529
- Operating Temperature: -55°C to +105°C
- Insertion Force: Per EIA-364-13, 44.1N (4.5 kgf, 9.1lbf) max.
- Withdrawal Force: Per EIA-364-13, 9.8N (1.0 kgf, 2.2lbf) to 39.2N (4.0 kgf, 8.8lbf)
- Durability: Per EIA 364-09, 10 000 Mating Cycles
- Vibration: Per EIA 364-28 Condition III (15g, 10-2000Hz, 12 Hrs), No Discontinuity > 1μs
- Shock: Per EIA 364-27 Test Condition A (11 ms, 50g, 1/2 Sine), No Discontinuity > 1μs

## SPECIFICATION

- Amphenol Product Specification: HDMI Rev 2.0

## APPROVALS AND CERTIFICATIONS

- RoHS

## ENVIRONMENTAL

- Temperature Life w/o Load: Per EIA-364-17, 105°C, 1000 Hours
- Thermal Shock: Per EIA-364-32, -55°C to +125°C, 10 Cycles
- Humidity: Per EIA 364-31, 10 Cycles, 240 Hrs, 25°C to 65°C 90-95%RH, with -10°C Cold Shock
- Mixed Flowing Gas: Per EIA 364-65 Class IIA (Cl2, NO2, H2S & SO2), 14 Day Exposure
- Solvent Resistance: Isopropyl Alcohol & 5% Sodium Hydroxide Solution, 24 Hrs Each
- Solderability: Per EIA-364-52, 95% Coverage after Category 2 Steam Aging

## PACKAGING

- Tray

## TARGET MARKETS/APPLICATIONS



Transportation



Datacom  
Telecom



Energy  
Industrial  
Rail



Medical



Military