

HVAC SYSTEMS IN HARSH CONDITIONS



WINDOW UNIT



WALL UNIT



OUTDOOR RESIDENTIAL UNIT



COMMERCIAL UNIT

TAKE THE HEAT OFF YOUR SEARCH!

CONNECTIVITY SOLUTIONS FOR YOUR HVAC SYSTEM

It's not easy being an HVAC system ... whether installed in a home or a commercial building. HVAC systems are exposed to harsh environments ranging from extreme heat to frigid temperatures — both inside and outside the system.

The components in your design must withstand dust, debris, thermal shock, condensation, humidity, and corrosion. Choosing weak components can reduce energy-efficiency and degrade the system's performance.

ISSUE	RESULT
Water ingress	Deteriorating exterior wall assemblies
Condensation from hot and cold weather	Damaged building materials and HVAC system components
Indoor humidity and moisture	Damaged building materials and HVAC system components
Moisture inside the HVAC	Damaged buildings and components, plus damp conditions that if prolonged could lead to growth of molds, bacteria, and insect pests within HVAC systems
Damp indoor environments	Adverse health effects for building inhabitants

WHAT TO LOOK FOR IN COMPONENTS



Extra locking mechanisms



IP67-rated protection from water and dust



Glow Wire Test (GWT) and UL 94-V0



Waterproof and dustproof



Flameproof

4 CONNECTORS THAT WITHSTAND HARSH ENVIRONMENTS

UNIVERSAL MATE-N-LOK CONNECTORS

- Housings that feature positive polarization, positive locking, and rear cavity identification for easy, error-resistant assembly
- Splash-proof Sealed Version, terminal position assurance (TPA) for 2-5 positions
- Cap and plug housings and headers available in material meeting the GWT requirement according to IEC 60335-1 5th edition, as well as the UL 94-V0
- IP57 rated protection against water and dust



PRODUCT PROFILE STATS

POSITIONS:
1-15 W-W, 2-15 W-B

CENTERLINE (MM):

6.35



Current rating (A): 19A MAX

Voltage rating (V): 600VAC/VDC

WIRE RANGE (AWG):

30-10

CONFIGURATIONS:

W-W, W-B, B-B



FLAMMABILITY:
UL 94-V2, V0 & GWEPT

Operating temp range:
-55°C to 105°C
(125°C available)



POWER VERSA-LOCK CONNECTORS

- Extra locking mechanism that keeps AC equipment clean from debris and free from moisture due to condensation
- Optional TPA or back cover accessory available for higher reliability
- Optional IP67-rated protection against water and dust for use in water-related environments
- Designed with a mounting clip on the cap housings to help reduce connector movement in high vibration applications

PRODUCT PROFILE STATS

POSITIONS:
1-4, 6, 9

CENTERLINE (MM):

5



Current rating (A): 15A MAX

Voltage rating (V): 600VAC

WIRE SIZE (AWG):

14-26

CONFIGURATIONS:

W-W, W-P



FLAMMABILITY:
UL 94-V0, V0 & GWEPT
750°C

Operating temp range:
-30°C to +130°C



2.5MM SEALED SIGNAL DOUBLE LOCK CONNECTOR

- Designed for reliability with a double-lock plate that helps ensure correct loading and mating of contacts in the housing
- Audible click when contact is fully inserted into housing for maximum sealing capabilities
- Terminals are polarized to prevent incorrect insertion and help reduce assembly errors
- IP67 rated sealed for reliable performance in high humidity and wet environments.



PRODUCT PROFILE STATS

POSITIONS:
2-14(WTB), 2-10 (WTW)

CENTERLINE (MM):

2.5



Current rating (A): 3A MAX

Voltage rating (V): 250VAC

WIRE SIZE (AWG):

26-22

CONFIGURATIONS:

2 — 14 positions WTB,
2 — 10 positions WTW



FLAMMABILITY:
UL 94-V0, GWT

Operating temp range:
-30°C to 105°C



RAST 5 CONNECTORS

- Offer better performance in terms of corrosion resistance, insertion wear resistance, and current-carrying capacity
- Resistant to high-current shock — silver plating options
- Meet UL 94-V0 and GWT 750°C without flame compliant models

PRODUCT PROFILE STATS

POSITIONS:
2-8

CENTERLINE (MM):

5



Current rating (A): 20A

Voltage rating (V): 600VAC

WIRE SIZE (AWG):

22-18

CONFIGURATIONS:

W-B



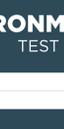
FLAMMABILITY:
UL 94-V0, GWT

Operating temp range:
-40°C to 120°C



TRIPLE-TESTED TO MEET YOUR REQUIREMENTS

TE Connectivity (TE) products go through three advanced tests to ensure they meet your strict HVAC design requirements.



ENVIRONMENTAL TEST



ELECTRICAL TEST



MECHANICAL TEST

PERFORMANCE NEED

To withstand thermal shock, condensation, and humidity, and reduce corrosion

To withstand the impact of high current and rising temperature

To withstand long-term, high-intensity operations in harsh environments

TESTS PERFORMED

- Temperature and humidity
- Thermal shock
- Temperature cycling
- Salt spray
- Mixed and water
- Dust and water
- GWT, HWI, and needle flame
- HASS/HALT

- Low-level contact resistance
- Dielectric withstanding voltage
- Current-carrying capacity
- Temperature rise vs. current
- EMC

- Sinusoidal/random vibration with temperature and humidity
- Durability
- Normal force and LLCR tester

CONNECT WITH TE



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