Amphenol®

Application Note

IAN-139

LPT XII

BACKGROUND

Signal-type connectors are essential for maintaining stable, low-loss communication between circuits and devices. Their performance determines overall signal integrity and system reliability, especially in industrial, automotive, healthcare, and communication environments where vibration, temperature variation, and contamination are common. As systems become more compact and demanding, connectors must deliver consistent electrical performance and mechanical durability without adding complexity or cost.

PROBLEM

In harsh environments, connectors are exposed to vibration, impact, and corrosive conditions that can loosen contacts, increase resistance, and cause signal degradation. Many conventional signal connectors cannot balance ruggedness, electrical stability, and affordability, resulting in compromised performance or frequent maintenance. A connector solution that combines mechanical strength, environmental protection, and stable conductivity is required to ensure long-term reliability in demanding applications.

AIO SOLUTION

Amphenol Industrial Operations developed the LPT XII, a 12-pin metal circular connector extending the proven LPT platform for robust signal performance. Featuring a corrosion-resistant aluminum shell, bayonet-style coupling, and precision crimp contacts rated up to 13A, the LPT XII provides secure mating, vibration resistance, and low contact resistance over repeated cycles. Its lightweight, cost-effective design offers dependable electrical performance and mechanical stability, making it ideal for industrial, transportation, and automation applications where reliability is essential. The connector's internal insulation design enhances dielectric strength and prevents signal leakage, while its compact geometry simplifies integration into existing systems. The LPT XII demonstrates Amphenol's commitment to developing versatile, high-performance interconnect solutions that meet the evolving needs of modern electronic systems.