

JRE LAN10G-2

Dual Filtered 10GBASE-T Ethernet Interface

Two independent 10GBASE-T channels in one housing — patented phasing rejects wireless RF without throttling your data.



Two complete 10GBASE-T filters in a single machined housing

AT A GLANCE

- **Two independent 10GBASE-T filters** in one housing — saves I/O plate space and cost over two single units
- **Not a low-pass filter** — a patented signal-phasing topology discriminates balanced differential data from common-mode RF instead of attenuating both
- Handles **10GBASE-T** plus the **2.5G** and **5GBASE-T** rates over standard RJ-45
- **80 dB** isolation in test system configuration, 50 MHz to over 6 GHz
- **Direct copper RJ-45-to-RJ-45 path** — test hiccups are exchanged end-to-end, with none of the silent hang-ups a fiber link can hide
- **PoE pass-through compatible**; two Ethernet male-to-male jumper cables included
- **Fully passive** — no active components, no firmware · 100% made in USA

DESCRIPTION

The JRE LAN10G-2 is two Ethernet 10GBASE-T compliant filters on standard RJ-45 connectors, built into a single machined-aluminum housing that gives exceptional RF shielding on all data and power lines. Each channel is a complete filter in its own right, so a second link costs you one mounting footprint on the I/O plate instead of two.

These filters operate on an entirely different principle from older designs. Earlier filters low-pass filtered the data lines to attenuate interfering wireless RF, but as data speeds increased the data signals moved into the same frequency range as the interference — so a low-pass filter attenuates both. Our patented design uses signal phasing techniques and topology to reject

the RF while passing the data clean, with no low-pass filtering on any data conductor. That matters most where a low-pass filter fails outright, as with key fobs and RFID.

Fully 10GBASE-T compliant with a direct copper connection between RJ-45 ports, the filter appears to the devices as a couple of metres of Ethernet cable. Reliable shielding starts at the mounting: a ring of 4-40 screws draws the flange flat and tight around its entire perimeter, unlike single-nut designs that never seat reliably flat and work loose over time. Every specification here is measured with the filter installed in an enclosure.

RF PERFORMANCE

Isolation, in test system	80 dB
Frequency range	50 MHz – 6 GHz+
Insertion loss, data lines	5 dB
Per channel, both channels independent.	

DATA RATES SUPPORTED

10GBASE-T	Yes
5GBASE-T / 2.5GBASE-T	Yes
10GBASE-R / SFP+ / fibre	Not compatible

ELECTRICAL & CONNECTOR

Channels	Two, independent
Data line balanced impedance	90–100 Ω typ.
Power capability	60 VDC @ 1 A
DC resistance per leg	0.1 Ω max
Interface	RJ-45 female jacks
Cables	Two Ethernet M-M incl.

DIMENSIONS & MOUNTING

Outside	3.2" H × 3.2" W × 0.8" D
Mounting screws	80 × 80 × 20 mm
Clearance hole	4-40, included
Drilling template included for standalone installation.	0.1285" (#30 / 3.3 mm)

COMPATIBILITY

Works with any JRE RF shielded test enclosure or screen room. JRE's enclosure line provides superior RF isolation from 10 MHz to over 6 GHz, covering the full range of commercial, private and government communications systems. Only need one channel? See the JRE LAN-10G-1. Running 10/100/1000 only? The JRE LAN-2 is purpose-built for those speeds.