

Ethernet Transceiver

IEEE 802.3 Coaxial

Model CPDM-1135A

3061 Industry Drive, Lancaster, PA 17603-4025 U.S.A. • Tel 717-397-2777 • Fax 717-397-7079 • www.herley.com



FEATURES:

- IEEE 802.3 Compatible
- Jabber Detection
- Heartbeat (SQE)
- Collision Detection
- 10BASE5/10BASE2 Compatible
- Isolation
- Ruggedized COTS
- High Reliability Components

- Herley coaxial transceivers are designed for military and other applications incorporating ruggedized Local Area Networks. Typical applications include aircraft and weapon systems.
- Herley coaxial transceivers attach simply and easily to Ethernet 10 Mb/s Baseband Local Area Networks. These transceivers meet Ethernet/IEEE 802.3 standards and Ethernet 1.0/2.0 specifications.
- The coaxial transceivers transmit and receive data at 10 Mb/s rates, detect collisions and provide electrical isolation between the cables and equipment. They also protect the network from faulty transmissions (Jabber Time-out) and test the collision detection circuitry (Heartbeat/SQE test).
- These IEEE 802.3, coaxial transceivers provide the physical and electrical interface between baseband media and the networked equipment.
- The electrical connection and the ± 12 volt power is via a standard 15-pin Ethernet connector.
- The CPDM-1135A is capable of remotely monitoring: transmit, receive, collision detection and power.
- All transceiver devices incorporate standard, highly reliable printed circuit board technology and high grade components for a high MTBF. Maximum distance between any two nodes is 1 km.

Specifications and designs are subject to change without notice.

EXPORT SALES OF THIS PRODUCT ARE SUBJECT TO U.S. GOVERNMENT APPROVAL. SALES WILL NOT BE APPROVED TO COUNTRIES PROHIBITED BY THE INTERNATIONAL TRAFFIC IN ARMS REGULATIONS (ITAR). THE INFORMATION IN THIS DOCUMENT IS BELIEVED TO BE ACCURATE AND RELIABLE, BUT IS NOT GUARANTEED AND IS SUBJECT TO CHANGE WITHOUT NOTICE. PERFORMANCE DATA REPRESENTS TYPICAL CHARACTERISTICS AND NOT SPECIFICATIONS AS ACTUAL, INDIVIDUAL PRODUCT PERFORMANCE MAY VARY. THE DATA SHOULD BE USED FOR BASIC INFORMATION ONLY. NO CLAIMS OR WARRANTIES ARE MADE AS TO THE APPLICATION OF HERLEY PRODUCTS OR THEIR SUITABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. NO LIABILITY IS ASSUMED BY HERLEY INDUSTRIES, INC. FOR ITS USE.

Ethernet Transceiver, IEEE 802.3 Coaxial - *Model CPDM-1135A*

Versions: This product is available in several versions. Call to discuss other variations, or your particular requirements.

Product Numbers:

P/N XXXXXXXXXXX

DTE/TRANSCEIVER CABLE INTERFACE:

CONNECTOR 15 pin 'D' Type with 4-40 jack screws per MIL-C-24308
TERMINATION IMPEDANCE 78 ohms nom

DATA OUTPUT:

SIGNAL LEVEL OUTPUT 550 mV min., 1.31 V max.
COLLISION VOLTAGE 550 mV min., 1.31 V max.

DATA INPUT:

SIGNAL LEVEL INPUT 160 mV min.
COMMON MODE RANGE 0-5.5 Volts

MEDIUM CABLE INTERFACE:

CONNECTORS N-Type per Mil-C-39012 (2)
IMPEDANCE 50 ohms nominal
SHUNT CAPACITANCE 3 pf typ.
SHUNT RESISTANCE > 100 K ohms
BIAS CURRENT < -25 mA
CABLE DRIVE DC STEADY STATE 38-45 mA
AC COMPONENT >±30 mA
TRANSMIT VOLTAGE -2.05 V (low) - 0 V (high)
RISE/FALL TIME 25 ns ±5 ns

RECEIVE/COLLISION SIGNALS:

JABBER PERIOD 80-118 ns (10MHz ± 15%)
JABBER TIME-OUT 20-50 ms
JABBER RECOVERY 1 µs
JABBER RESET 340-500 ms
SQE TEST DELAY 600-1000 ns
SQE TEST DURATION 800 ns

TRANSMISSION RANGE:

10BASE5 1 Kilometer
10BASE2 305 meters

PERFORMANCE:

PREAMBLE LOSS, TRANSMIT <2 bits +1 corrupted
PREAMBLE LOSS, RECEIVE <5 bits +1 corrupted
TRANSMIT SENSITIVITY ± 150 differential
RECEIVE COAX SIGNAL REJECTION 400 mV nominal

PRIMARY POWER:

VOLTAGE 11 to 16 VDC
CURRENT 150-275 mA
ISOLATION 250 V min.

PHYSICAL:

SIZE 1.56 x 4.0 x 6.72 inches
WEIGHT 1.95 lbs max.

ENVIRONMENTAL:

GENERAL DESIGN SPECIFICATION MIL-E-5400T Class 1
EMI MIL-STD-461C, CE01, CE03, CS01, CS02, CS03, CS06, RE02, RS02, RS03
SALT FOG MIL-STD-810D, 509.1-I
SAND AND DUST MIL-STD-810D, 510.1-I
ACCELERATION MIL-STD-810D, 513.1-I
EXPLOSIVE ATMOSPHERE MIL-STD-810D, 511.2-I
OPERATING TEMPERATURE -40 to +85 ° C
STORAGE TEMPERATURE -62 to +125 ° C
OPERATIONAL THERMAL SHOCK ±25 ° C
NON-OPERATIONAL THERMAL SHOCK ±30 ° C
HUMIDITY 0 to 100% Condensing
ALTITUDE -1000 to 70,000 ft.
MECHANICAL SHOCK 20 gs, 11 ms MIL-STD-810D 516.2
RANDOM VIBRATION MIL-STD-810D, 514.3-1A
AIR CRASH SAFETY 30gs, 11 ms

EXPORT SALES OF THIS PRODUCT ARE SUBJECT TO U.S. GOVERNMENT APPROVAL. SALES WILL NOT BE APPROVED TO COUNTRIES PROHIBITED BY THE INTERNATIONAL TRAFFIC IN ARMS REGULATIONS (ITAR). THE INFORMATION IN THIS DOCUMENT IS BELIEVED TO BE ACCURATE AND RELIABLE, BUT IS NOT GUARANTEED AND IS SUBJECT TO CHANGE WITHOUT NOTICE. PERFORMANCE DATA REPRESENTS TYPICAL CHARACTERISTICS AND NOT SPECIFICATIONS AS ACTUAL, INDIVIDUAL PRODUCT PERFORMANCE MAY VARY. THE DATA SHOULD BE USED FOR BASIC INFORMATION ONLY. NO CLAIMS OR WARRANTIES ARE MADE AS TO THE APPLICATION OF HERLEY PRODUCTS OR THEIR SUITABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. NO LIABILITY IS ASSUMED BY HERLEY INDUSTRIES, INC. FOR ITS USE.