



(“Tyco Electronics”) warrants solely to:

that each AMP NETCONNECT cabling system as currently defined by the Standard\* when comprised of the cable, connectors, connecting hardware and patch cords (the “Product(s)”) listed in the latest revision of the AMP NETCONNECT catalog literature number 82164 (“Catalog”) and EMEA catalog literature number 1308799, shall meet or exceed the performance requirements of the applicable Standard as referenced in the attached charts for a period of twenty-five (25) years from the effective date stated below.

Tyco Electronics warrants that the Products shall be free from defects in material and workmanship for a period of twenty-five (25) years following the effective date stated below.

Tyco Electronics also warrants that the signal carrying component Products from the Catalog shall be free from defects in material and workmanship and shall meet the prescribed mechanical and transmission specifications for such Product as described in the Standard for a period of twenty-five (25) years following the effective date stated below; provided, that any durability specifications shall not extend beyond the twenty-five (25) year period.

Tyco Electronics also warrants that each AMP NETCONNECT System will exceed the cabling system requirements for any application listed in the latest revision of the AMP NETCONNECT Warranted Applications List (the “Applications”) and summarized in the attached Systems and Applications Table.

All warranties shall be subject to the installation, operation and maintenance practices and testing and environmental conditions described in the TIA/EIA-568-B, “Commercial Building Telecommunications Cabling Standard” in effect on the Effective Date listed below.

Under the System Warranty, Tyco Electronics, at its discretion, may either repair or replace the defective product itself at Tyco Electronics’ cost or may pay the authorized AMP NETCONNECT Contractor (the “Contractor”) the appropriate and necessary cost including labor to repair or replace any such defective product.

(See reverse side of this document for performance charts and additional terms and conditions.)

This Warranty excludes all cables tested that exceed the maximum allowable length as defined in the TIA/EIA 568B Document in effect on the Effective Date listed below.

**SAMPLE**

\_\_\_\_\_  
(Registration Number)

**SAMPLE**

\_\_\_\_\_  
(Effective Date)



\_\_\_\_\_  
(Authorized Signature)\*\*

\_\_\_\_\_  
(Title)

\*\*This Warranty is not valid unless signed by an authorized Tyco Electronics employee.

## Systems and Applications Tables

ALL WARRANTIES ARE VOID IF THE PRODUCT HAS BEEN MISAPPLIED, MISUSED, ABUSED, DAMAGED, OR REMOVED FROM THE ORIGINAL SITE OF INSTALLATION.

TYCO ELECTRONICS MAKES NO WARRANTY, EXPRESS, IMPLIED (INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR INTENDED PURPOSES) OR STATUTORY, OTHER THAN THE FOREGOING EXPRESS WARRANTIES.

Failure of the Customer to submit any warranty claim for a Product to the authorized Tyco Electronics office as designated by Tyco Electronics within thirty (30) days following expiration of the warranty period shall be an admission by the Customer and conclusive proof that the Product is in every respect as warranted and shall release Tyco Electronics and the contractor from any and all such claims for damage or loss sustained by the Customer. If the Customer timely submits a valid warranty claim, then at Tyco Electronics' discretion the Customer's sole and exclusive remedy shall be the repair or replacement, including appropriate and necessary labor charges of the defective Product or a refund of the purchase price of the defective Product. Under no circumstance shall Tyco Electronics be obligated to pay costs to repair or replace any Product that exceeds the amount paid by Customer for product.

IN NO EVENT SHALL TYCO ELECTRONICS BE LIABLE FOR INCIDENTAL, EXEMPLARY OR CONSEQUENTIAL DAMAGES, INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOST DATA, TIME, PROFITS, REVENUES OR THE LIKE ARISING FROM THE LOSS OF USE OR INTERRUPTION OF A SYSTEM.

\*The cabling system Standard is ANSI/TIA/ EIA-568-B or if such standards are not applicable, the system or application specification from the Systems and Applications Tables. The Warranted Systems components are from the latest version of the AMP NETCONNECT catalog literature number 82164 and EMEA AMP NETCONNECT catalog literature number 1308799. The applications listed in the Systems Applications Assurance Table represent the most commonly used physical layer protocols in the LAN industry.

### COPPER CABLING SYSTEM PERFORMANCE

	Category 5		Enhanced Category 5e		Category 6		XG F/UTP
	ANSI/TIA/EIA-568-B		ANSI/TIA/EIA-568-B		ANSI/TIA/EIA-568B		TIA/EIA 568B.2-10
	Link	Channel	Link	Channel	Link	Channel	Channel
	100 MHz	100 MHz	100 MHz	100 MHz	250 MHz	250 MHz	500MHz
INSERTION LOSS (dB)	21.6	24	21.6	24.0	31.1	35.9	49.3
PP NEXT (dB)	29.3	27.1	32.3	30.1	35.3	33.1	26.1
PS NEXT (dB)			29.3	27.1	32.7	30.2	23.2
ACR-F(dB)	17.0	17.0	20.0	17.4	16.2	15.3	9.3
PS ACR-F (dB)	14.4	14.4	17.0	14.4	13.2	12.3	6.3
RETURN LOSS (dB)	10.1	8.0	12.1	10.0	10	8.0	6.0
PS ANEXT							51.5

### OPTICAL FIBER CABLING SYSTEM PERFORMANCE

Cabling Subsystem	Link Length (meters)	Attenuation (dB)			
		Multimode		Singlemode	
		850nm	1300nm	1310nm	1550nm
Horizontal	90	2.0	2.0	N/A	N/A
Centralized (Splice)	300	2.9	2.3	2.1	2.1
Centralized (Interconnect)	300	3.8	3.2	3.0	3.0
Building Backbone	300	2.6	2.0	1.8	1.8
Campus Backbone	1700	7.5	4.0	2.4	2.4
Campus Backbone	2000	8.5	4.5	2.5	2.5

The attenuation values given in this table have been calculated for optical fiber links in each cabling subsystem based on TIA requirements for cable and connector attenuation and common industry lengths.

Fiber Type	OFL Bandwidth (MHz•KM)	
	850 nm	1300 nm
MM 62.5	200	500
MM 50	500	500
SM	N/A	See note
XG 50	1500	500
XG 50 Laser Bandwidth	2000	N/A
XG+	4700	NA

Note: Singlemode dispersion performance exceeds the requirements of TIA/EIA-568-B.

### AMP NETCONNECT SYSTEMS

Applications	Source	Cat 5 Class D	Cat 5 Enhanced	Cat 6 Class E	XG F/UTP	MM Fiber 62.5µ	MM Fiber 50µm	SM Fiber 9µm	XG Fiber	XG+ Fiber
10BASE-T	IEEE 802.3i - 1990, ISO/IEC 8802-3	X	X	X	X					
10BASE-F	IEEE 802.3j - 1993, ISO/IEC 8802-3 AM 14					X	X		X	X
100BASE-TX, T4	IEEE 802.3u - 1995	X	X	X	X					
100BASE-FX	IEEE 802.3u - 1995					X	X		X	X
1000BASE-T	IEEE 802.3ab - 1999		X	X	X					
1000BASE-TX	TIA/EIA-854-2001			X	X					
1000BASE-F	IEEE 802.3z - 1998					X	X	X	X	X
10GBASE-T	IEEE 802.3an - 2006				X					
10GBASE-F	IEEE 802.3ae -2002					X	X	X	X*	X**
ken Ring 4/16 Mbps	IEEE 802.5, ISO/IEC 8802-5	X	X	X	X					
Token Ring FO Station Attachment	IEEE 802.5j, ISO/IEC TR 11802-4					X	X		X	X
ATM PMD for 25.6 Mbps over TP	ATM Forum, af-phy-0040.000	X	X	X	X					
ATM PMD for 51.84 Mbps over TP	ATM Forum, af-phy-0018.000	X	X	X	X					
ATM PMD for 155 Mbps over TP	ATM Forum, af-phy-0015.000	X	X	X	X					
ATM PMD for 155 Mbps over MMF	ATM Forum, af-phy-0062.000					X	X	X		X
ATM PMD for 622.08 Mbps over MMF	ATM Forum, af-phy-0046.000					X	X	X		X
ATM PMD for 1.2 Gbps over MMF/SM	ATM Forum, af-phy-0133.000					X	X	X	X	X
ATM PMD for 2.5 Gbps over MMF/SM	ATM Forum, af-phy-0162.000					X	X	X	X	X
FDDI PMD	ISO/IEC 9314-9, ANSI X3T9.5					X	X		X	X
FDDI LCF PMD	ISO/IEC CD 9314-9, ANSI X3.237-1995					X	X		X	X
FDDI SM PMD	ISO/IEC DIS 9314-4, ANSI X3.184-1993							X		
FDDI TP-PMD	ISO/IEC 9314-1, ANSI X3.263-1995	X	X	X	X					

\*300 meter distance supported when deployed via 10GBASE-LX/LW (WDM) technology only.

\*\*550 meter distance supported when deployed via 10GBASE-LX/SW (WDM) technology only. 10GBE maximum transmission distance for XG+ fiber at 850nm assumes a maximum cable attenuation of 3.0 dB/km and a total interconnection and splice loss of 0.8 dB maximum. Shaded areas represent "non-applicable"