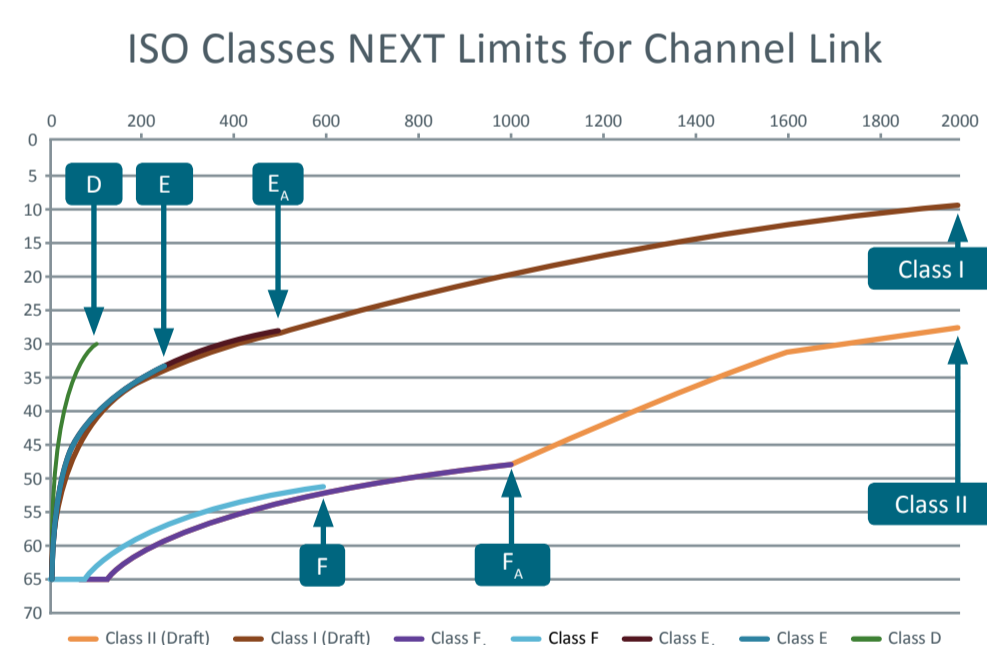
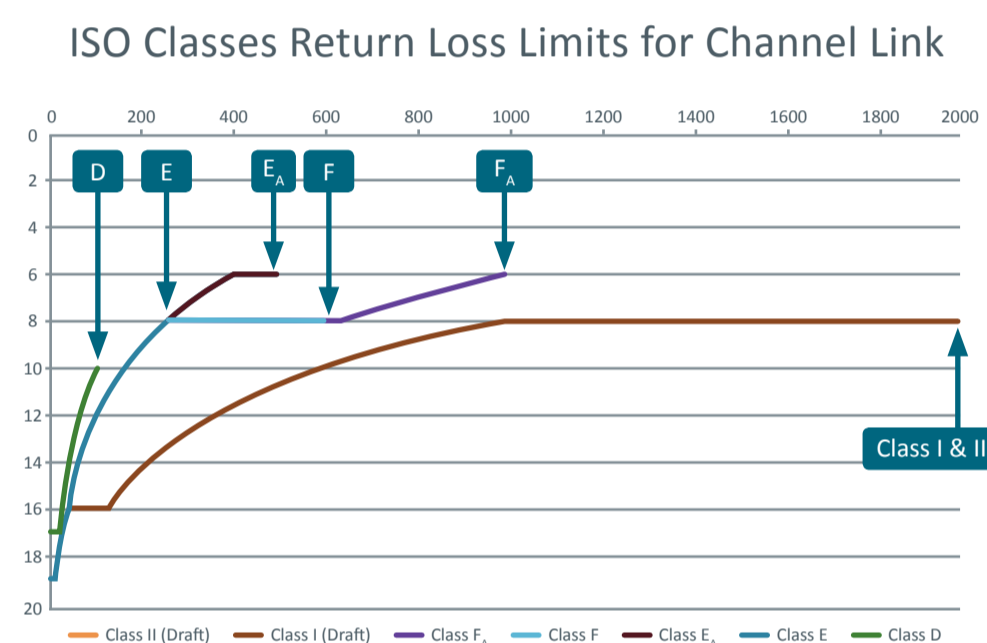
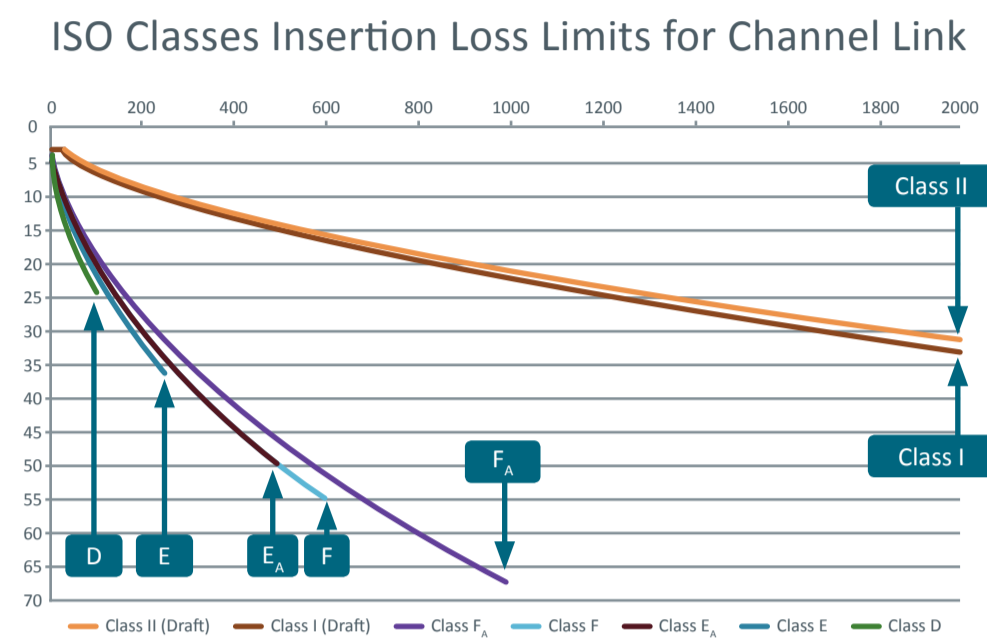


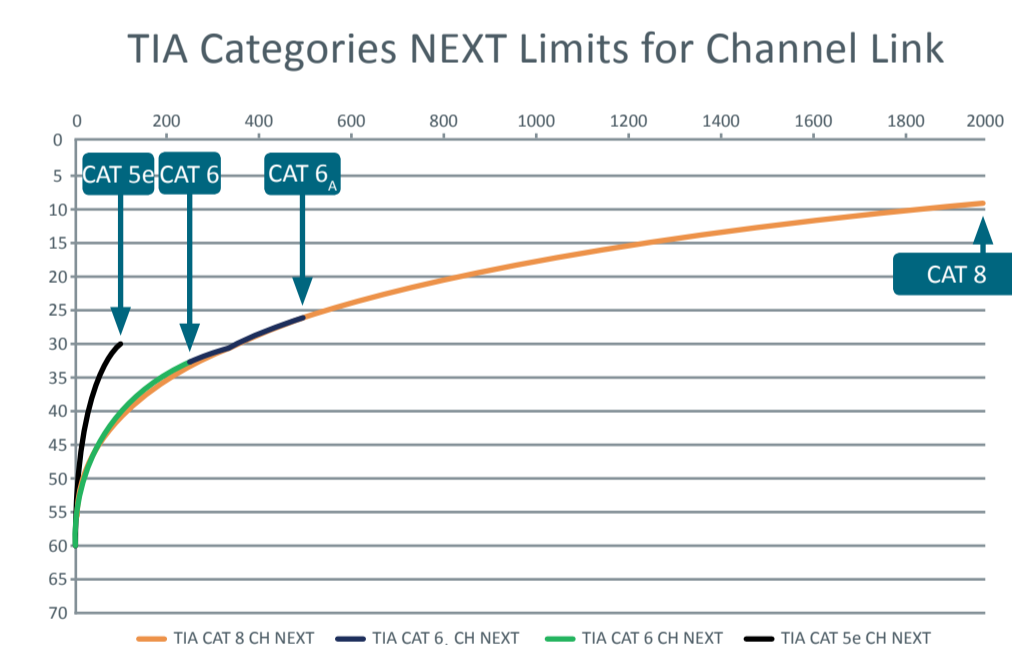
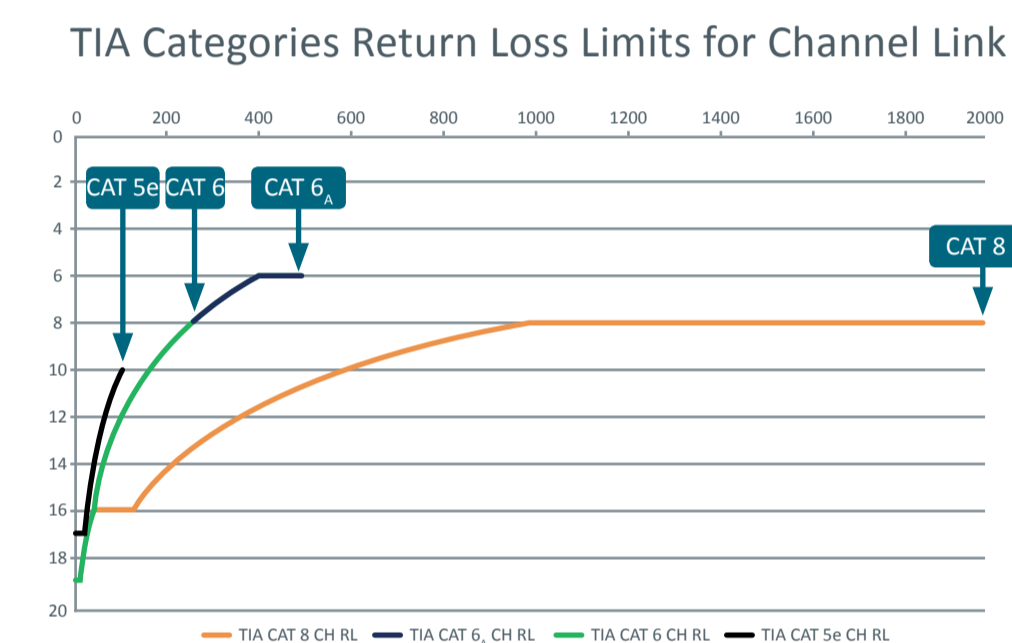
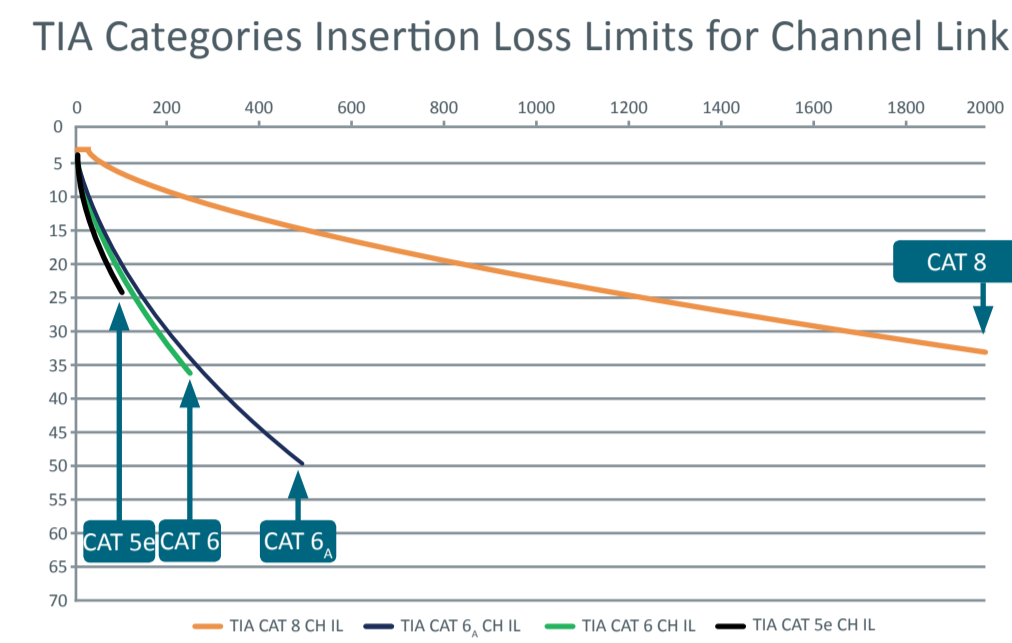
# BASICS OF CABLE CERTIFICATION

## LIMITS FOR CABLING

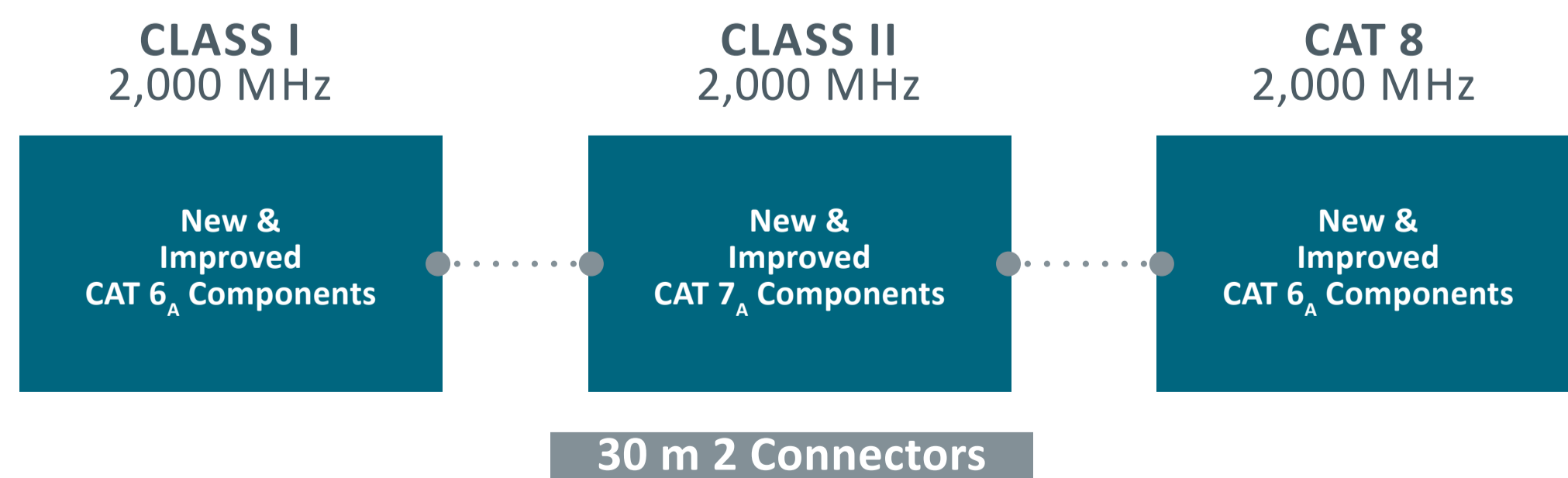
### INTERNATIONAL (incl. Europe) ISO/IEC 11801



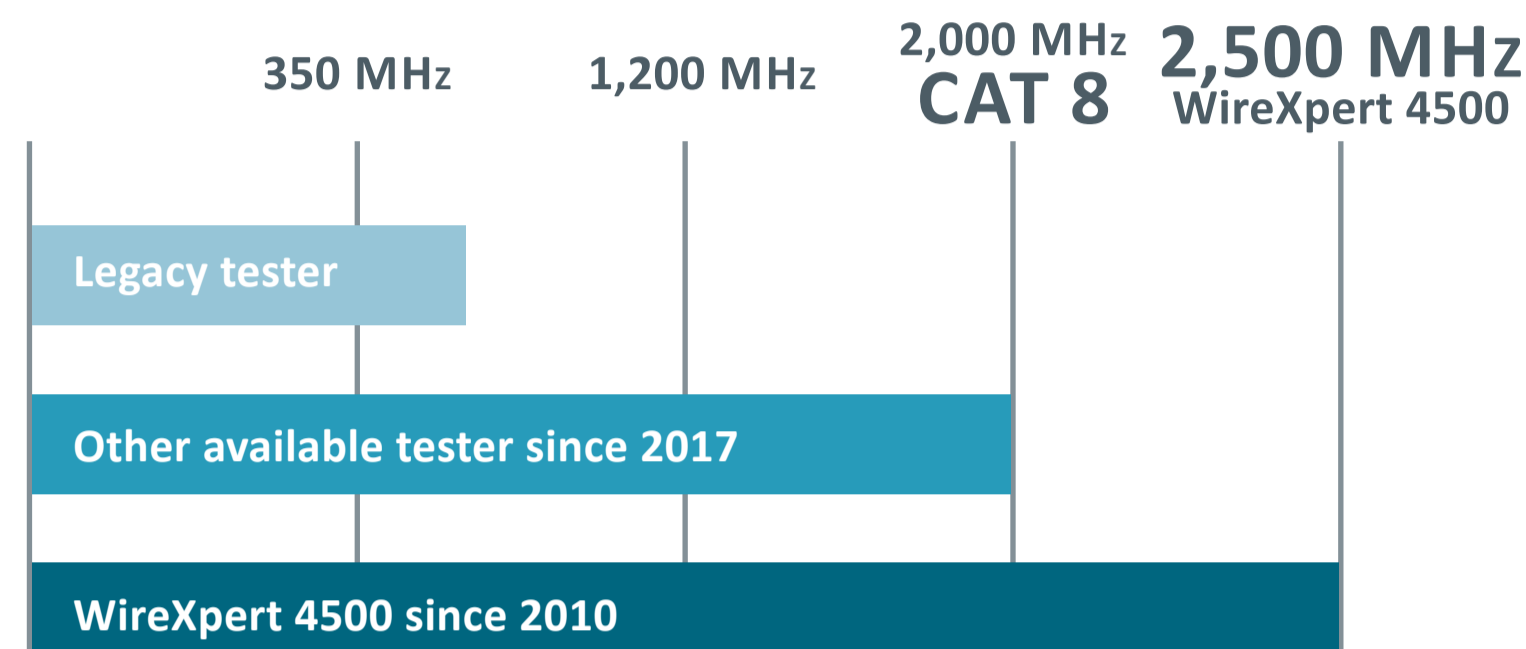
### NORTH AMERICA TIA-568



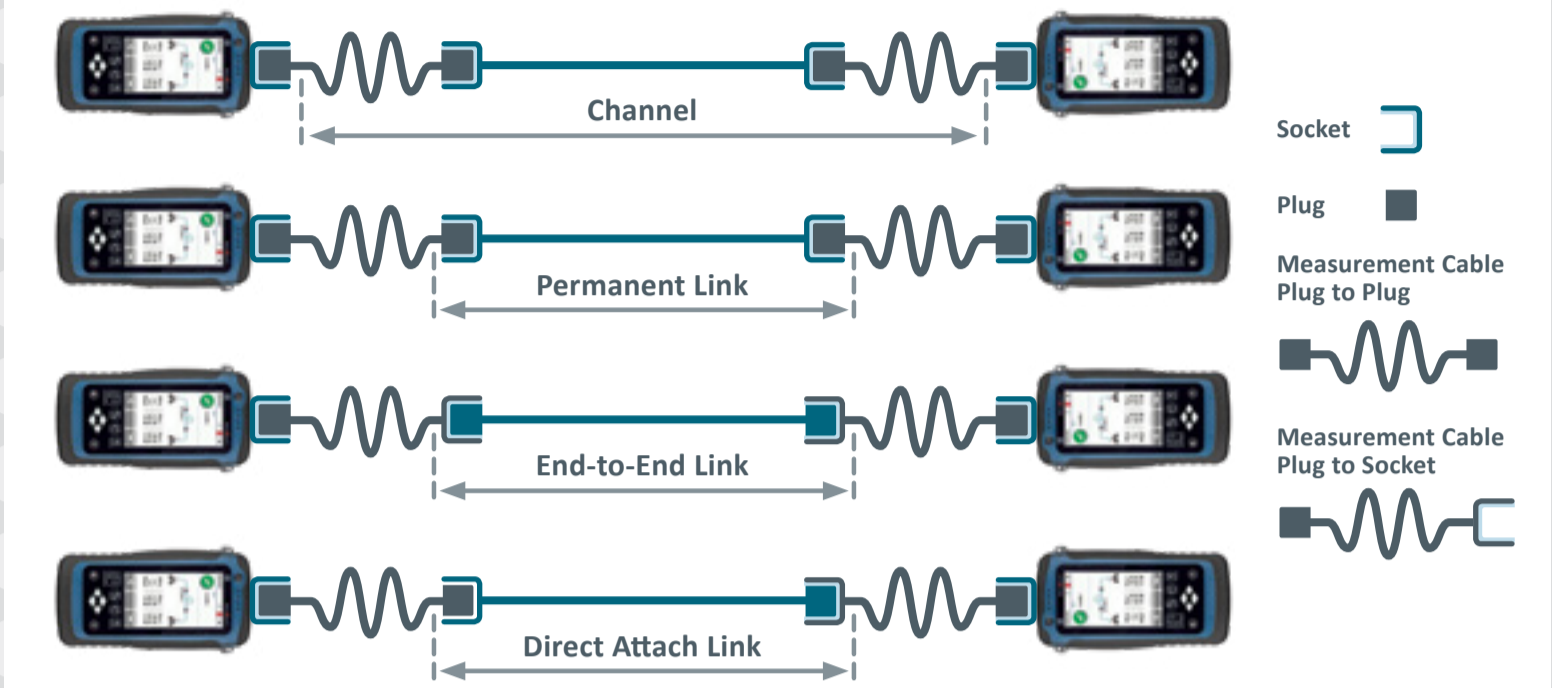
## CABLING FOR IEEE 802.3 40GBASE-T



## WireXpert 4500 THE FIRST CAT 8 CERTIFIER

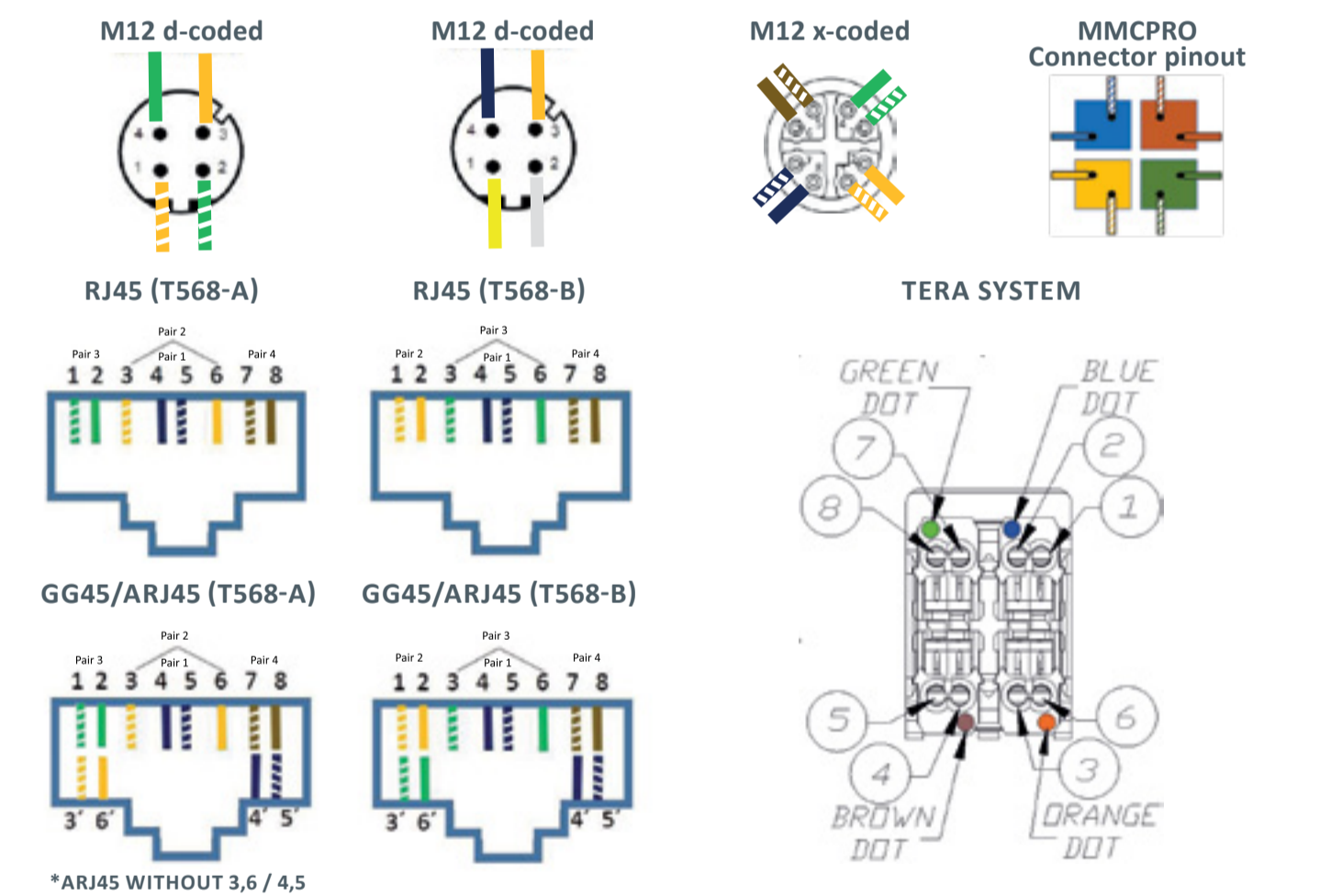


## TEST SETUP FOR CHANNEL & PERMANENT LINK



## CONNECTOR PINOUT

Colors EIA TIA568B	PROFINET Colors	RJ45	M12 d-coded	M12 x-coded	TERA	GG45 ARJ45
white/orange	yellow	1	1	1	3	1
orange	orange	2	3	2	6	2
white/green	white	3	2	3	7	3/3'
green	blue	6	4	4	8	6/6'
white/blue		5	--	7	1	5/5'
blue		4	--	8	2	4/4'
white/brown		7	--	5	5	7
brown		8	--	6	4	8



Standard / Area	Installation Category / Class	Freq (MHz)	Insertion Loss	Loop Resistance	Delay	NEXT	PSNEXT	Return Loss	ACR/PSACRF	PSANEXT/PSAACRF	ACR-IN/PSACR-IN	Supported Network <sup>1</sup>
TIA-568-C.2 North America/ Canada	CAT 3	1 - 16	•	•	•	•	•	•	•	•	•	10BASE-T
	CAT 5e	1 - 100	•	•	•	•	•	•	•	•	•	100BASE-T (2 pair)
	CAT 6	1 - 250	•	•	•	•	•	•	•	•	•	1000BASE-T
	CAT 6 <sub>A</sub>	1 - 500	•	•	•	•	•	•	•	•	•	10GBASE-T
	CAT 8	1 - 2,000	•	•	•	•	•	•	•	•	•	25/40GBASE-T
ISO/IEC 11801 Ed 2.2 International Cenelec EN 50173-1 Europe	Class C	1 - 16	•	•	•	•	•	•	•	•	•	10BASE-T
	Class D	1 - 100	•	•	•	•	•	•	•	•	•	100BASE-T (Class D 1995)
	Class E	1 - 250	•	•	•	•	•	•	•	•	•	1000BASE-T
	Class E <sub>A</sub>	1 - 500	•	•	•	•	•	•	•	•	•	10GBASE-T
	Class F	1 - 600	•	•	•	•	•	•	•	•	•	10GBASE-T
	Class F <sub>A</sub>	1 - 1,000	•	•	•	•	•	•	•	•	•	10GBASE-T
	Class F <sub>A</sub> Extended *	1 - 1,600	•	•	•	•	•	•	•	•	•	25/40GBASE-T
	Class I **	1 - 2,000	•	•	•	•	•	•	•	•	•	25/40GBASE-T
	Class II **	1 - 2,000	•	•	•	•	•	•	•	•	•	25/40GBASE-T
				•	•	•	•	•	•	•	•	•

<sup>1</sup> Higher Class/Category cabling will support networks listed in lower classes/categories