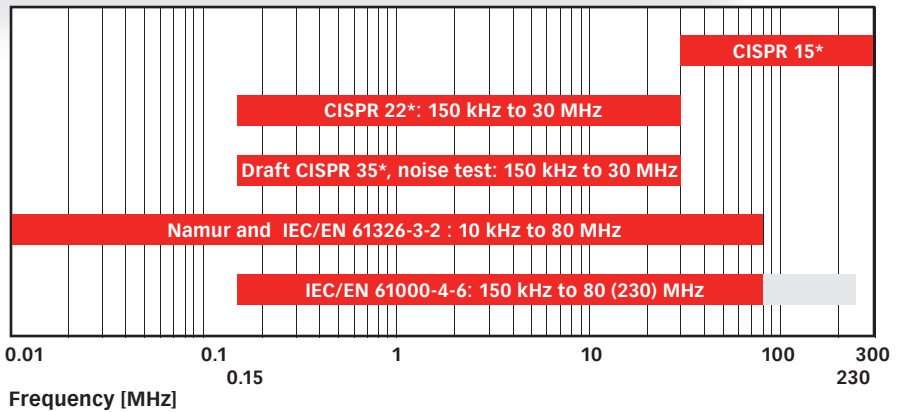


COUPLING DECOUPLING NETWORKS FOR IEC/EN 61000-4-6

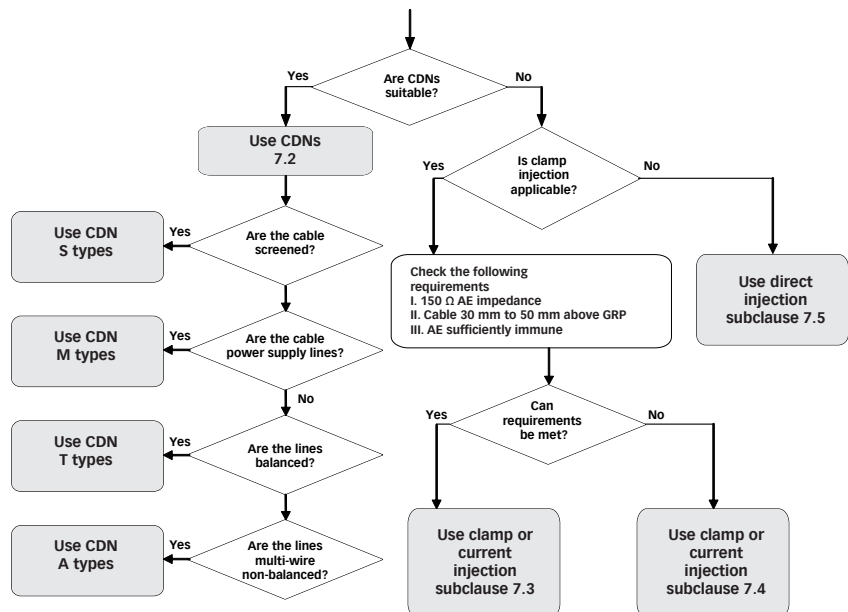


IEC/EN 61000-4-6 specifies the design and performance of a range of coupling/decoupling networks (CDNs). Each CDN is specific to the type of cable and the intended signal carried on the cable. Teseq offers an extensive range of CDNs which fully comply with the requirements of the standard and provide a simple and reliable method of injecting RF energy into the equipment under test (EUT). Each CDN is also useable for emission testing, special types are meet the requirements of CISPR 15, CISPR 22, CISPR 35, NAMUR NE 21 and IEC/EN 61326-3-2.

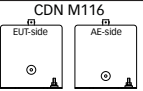
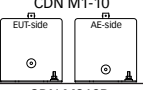
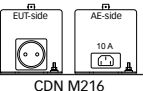
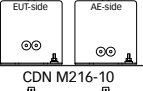
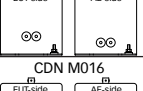
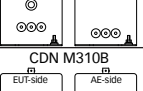
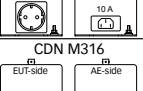
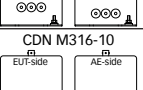
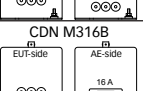
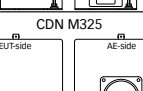
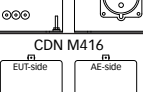
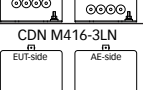
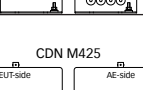
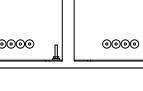
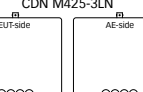


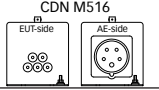
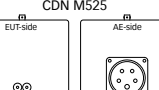
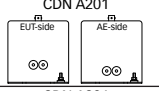
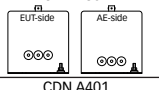
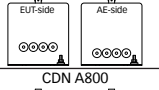
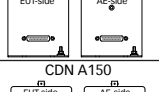
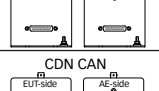
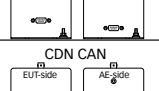


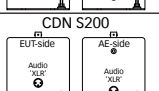
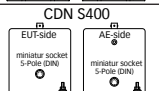
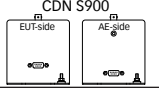
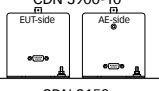
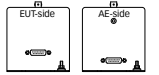
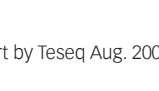
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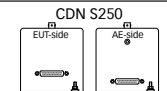
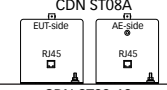
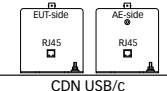
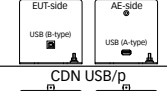
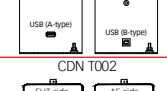



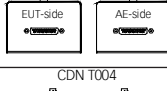
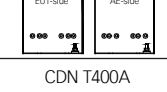


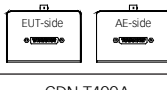

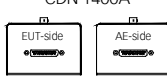
IEC/EN 61000-4-6: Rules for selecting the injection method







Cable type	CDN type	Application	Product range
	M type	Used for unscreened AC or DC power supply applications.	CDN M116 CDN M016, M210B, M216, M310B, M316, M316B CDN M416, M416-3LN, M516 CDN M325, M425, M425-3LN , M525
	AF type	Used for all unscreened, unbalanced lines, carrying low current.	CDN A201, A301, A401 CDN A800, A150
	CAN bus type	Specially designed to test the unscreened CAN bus.	CDN CAN-U4, CDN CAN-U5
	S type	Used for screened cables.	CDN S150, S200, S250, S400, S900
	S type coaxial	Used for coaxial cables.	CDN S501, S751 See also product range Impedance Stabilization Networks for ISN S501.
	USB type	Specially designed to test the universal serial bus,	CDN USB/c, USB/p
	ST type	Used for testing screened, balanced lines for telecommunication ports on ITE equipment.	CDN ST08A See also product range Impedance Stabilization Networks for ISN ST08..
	T type	Used for unscreened, balanced lines. for telecommunication ports on ITE equipment.	CDN T002, CDN T004 CDN T210A...T246AS, CDN T411A...T4AS CDN T8 See also product range Impedance Stabilization Networks for ISN T2A, T4A, ISN T8 and ISN T8-CAT6..

	Drawing	Frequency range	CDN type and application	Connector type	Immunity testing IEC/EN 61000-4-6	Immunity testing 10 kHz to 80 MHz	Emission testing CISPR 15/22	Number of lines	Max. EUT current [A]	Max. EUT voltage [V] for AC	Max. RF voltage [V]	3 dB bandwidth (sinusoidal)
CDN M116		150 kHz to 230 MHz	CDN M 1 1 PE line	AE: banana EUT: banana	■			1	1	—	20	—
CDN M1-10		10 kHz to 80 MHz	CDN M 1 1 PE line	AE: banana EUT: banana	■	■		1	1	—	20	—
CDN M210B		150 kHz to 230 MHz	CDN M2 2 power lines	AE: IEC 60320 C14 EUT: CEE 7/17	■			2	10	250	30	—
CDN M216		150 kHz to 230 (300) MHz	CDN M2 2 power lines	AE: banana EUT: banana	■	■		2	16	250	30	—
CDN M216-10		10 kHz to 80 MHz	CDN M2 2 power lines	AE: banana EUT: banana	■	■		2	16	250	30	—
CDN M016		150 kHz to 230 MHz	CDN M2/3 switchable 2/3 power lines (L+N or L+N+PE)	AE: banana EUT: banana	■			2/3	16	250	30	—
CDN M310B		150 kHz to 230 MHz	CDN M3 3 power lines (L+N+PE)	AE: IEC 60320 C14 EUT: Schuko CEE 7/4	■			3	10	250	30	—
CDN M316		150 kHz to 230 (300) MHz	CDN M3 3 power lines (L+N+PE)	AE: banana EUT: banana	■	■		3	16	250	30	—
CDN M316-10		10 kHz to 80 MHz	CDN M3 3 power lines (L+N+PE)	AE: banana EUT: banana	■	■		3	16	250	30	—
CDN M316B		150 kHz to 230 MHz	CDN M3 3 power lines (L+N+PE)	AE: IEC 60320 C20 EUT: banana	■			3	16	250	30	—
CDN M325		150 kHz to 230 MHz	CDN M3 3 power lines (L+N+PE)	AE: CEE 17, 3 pins EUT: banana	■			3	25	250	30	—
CDN M416		150 kHz to 80 MHz	CDN M4 4 power lines (3L+PE)	AE: banana EUT: banana	■			4	16	250	30	—
CDN M416-3LN		150 kHz to 80 MHz	CDN M4 4 power lines (3L+N)	AE: banana EUT: banana	■			4	16	250	30	—
CDN M425		150 kHz to 230 MHz	CDN M4 4 power lines (3L+PE)	AE: banana EUT: banana	■			4	25	250	30	—
CDN M425-3LN		150 kHz to 230 MHz	CDN M4 4 power lines (3L+N)	AE: banana EUT: banana	■			4	25	250	30	—

	Drawing	Frequency range	CDN type and application	Connector type	Immunity testing IEC/EN 61000-4-6	Immunity testing 10 kHz to 80 MHz	Emission testing CISPR 15/22	Number of lines	Max. EUT current [A]	Max. EUT voltage [V] for AC	Max. RF voltage [V]	3 dB bandwidth (sinusoidal)
CDN M516		150 kHz to 80 MHz	CDN M5 5 power lines (3L+N+PE)	AE: CEE 17, 5 pins EUT: banana	■			5	16	250	30	—
CDN M525		150 kHz to 230 MHz	CDN M5 5 power lines (3L+N+PE)	AE: CEE 17, 5 pins EUT: banana	■			5	25	250	30	—
CDN A201		150 kHz to 230 (300) MHz	CDN AF2 for unscreened unbalanced 2 lines application	AE: banana EUT: banana	■		■	2	0.25	160	30	20 kHz
CDN A301		150 kHz to 230 (300) MHz	CDN AF3 for unscreened unbalanced 3 lines application	AE: banana EUT: banana	■		■	3	0.25	160	30	20 kHz
CDN A401		150 kHz to 230 MHz	CDN AF4 for unscreened unbalanced 4 lines application	AE: banana EUT: banana	■			4	0.25	160	30	20 kHz
CDN A800		150 kHz to 230 (300) MHz	CDN AF8 for unscreened unbalanced 8 lines application	AE: 25 pin D-sub EUT: 25 pin D-sub	■		■	8	0.2	63	15	20 kHz
CDN A150		150 kHz to 230 (300) MHz	CDN AF15 for unscreened unbalanced 15 lines application	AE: 25 pin D-sub EUT: 25 pin D-sub	■		■	15	0.2	63	15	20 kHz
CDN CAN-U4		150 kHz to 230 MHz	CDN for unscreened CAN bus with 4 lines	AE: 9 pin D-sub EUT: 9 pin D-sub	■			4	3 /0.5	48	20	20 kHz
CDN CAN-U5		150 kHz to 230 MHz	CDN for unscreened CAN bus with 5 lines	AE: 9 pin D-sub EUT: 9 pin D-sub	■			5	3 /0.5	48	20	20 kHz
CDN S501		150 kHz to 230 MHz	CDN S1 for coaxial line 50 Ω	AE: BNC 50 Ω EUT: BNC 50 Ω	■		■	1	0.25	250	20	2 GHz
CDN S751		150 kHz to 230 MHz	CDN S1 for coaxial line 75 Ω	AE: BNC 75 Ω EUT: BNC 75 Ω	■		■	1	0.25	250	20	2 GHz
CDN S200		150 kHz to 230 MHz	CDN S2 for 2 wires, screened line	AE: XLR EUT: XLR	■			2	0.25	150	20	20 kHz
CDN S400		150 kHz to 230 MHz	CDN S4 for 4 wires, screened line	AE: 5 pin DIN EUT: 5 pin DIN	■			4	0.25	34	20	20 kHz
CDN S900		150 kHz to 230 MHz	CDN S9 for 9 wires, screened line	AE: 9 pin D-sub EUT: 9 pin D-sub	■			9	0.25	150	20	20 kHz
CDN S900-10		10 kHz to 80 MHz	CDN S9 for 9 wires, screened line	AE: 9 pin D-sub EUT: 9 pin D-sub	■	■		9	0.25	150	20	20 kHz
CDN S150		150 kHz to 230 MHz	CDN S15 for 15 wires, screened line	AE: 15 pin D-sub EUT: 15 pin D-sub	■			15	0.25	150	20	20 kHz

	Drawing	Frequency range	CDN type and application	Connector type	Immunity testing IEC/EN 61000-4-6	Immunity testing 10 kHz to 80 MHz	Emission testing CISPR 15/22	Number of lines	Max. EUT current [A]	Max. EUT voltage [V] for AC	Max. RF voltage [V]	3 dB bandwidth (sinusoidal)
CDN S250		150 kHz to 230 MHz	CDN S25 for 25 wires, screened line	AE: 25 pin D-sub EUT: 25 pin D-sub	■			25	0.25	150	20	20 kHz
CDN ST08A		150 kHz to 230 MHz	CDN ST for screened and balanced telecommunication lines	AE: RJ45 EUT: RJ45	■		■	8	1	100	20	250 MHz
CDN ST08-10		10 kHz to 80 MHz	CDN ST for screened and balanced telecommunication lines	AE: RJ45 EUT: RJ45	■	■		8	1	100	20	250 MHz
CDN USB/C		150 kHz to 230 MHz	CDN USB for central devices (screened USB lines)	AE: USB "A" type EUT: USB "B" type	■			4	1	100	20	80 MHz
CDN USB/P		150 kHz to 230 MHz	CDN USB for peripheral devices (screened USB lines)	AE: USB "B" type EUT: USB "A" type	■			4	1	100	20	80 MHz
CDN T002		150 kHz to 230 MHz	T2 for 1 unscreened balanced wire pair	AE: banana, EUT: banana	■			2	0.2	125	30	10 MHz
CDN T210A		150 kHz to 80 MHz	T2 for 1 unscreened balanced wire pair, pin arrangement customer specific	AE: D-sub/RJ11 EUT: D-sub/RJ11	■			2	0.4	63	15	100 MHz
CDN T240A		150 kHz to 80 MHz	T2 for 1 unscreened balanced wire pair, pin arrangement customer specific	AE: D-sub/RJ45 EUT: D-sub/RJ45	■			2	0.4	63	15	100 MHz
CDN T246A		150 kHz to 80 MHz	T2 for 1 unscreened balanced wire pair, German Telecom, Siemens, UPO	AE: D-sub/RJ45 EUT: D-sub/RJ45, with ADR T246	■			2	0.4	63	15	100 MHz
CDN T004		150 kHz to 80 MHz	T4 for 2 unscreened balanced wire pairs	AE: banana, EUT: banana	■			4	0.2	125	30	10 MHz
CDN T410A		150 kHz to 80 MHz	T4 for up to 2 unscreened balanced wire pairs, pin arrangement customer specific	AE: D-sub/RJ11, EUT: D-sub/RJ11	■			4	0.4	63	15	100 MHz
CDN T411A		150 kHz to 80 MHz	T4 for up to 2 unscreened balanced wire pairs, German Telecom, US standard	AE: D-sub/RJ11, EUT: D-sub/RJ11, with ADR T411	■			4	0.4	63	15	100 MHz
CDN T440A		150 kHz to 80 MHz	T4 for up to 2 unscreened balanced wire pairs, pin arrangement customer specific	AE: D-sub/RJ45, EUT: D-sub/RJ45	■			4	0.4	63	15	100 MHz
CDN T442A		150 kHz to 80 MHz	T4 for up to 2 unscreened balanced wire pairs, ISDN basic rate access S0	AE: D-sub/RJ45, EUT: D-sub/RJ45, with ADR T442	■			4	0.4	63	15	100 MHz
CDN T443A		150 kHz to 80 MHz	T4 for up to 2 unscreened balanced wire pairs, ISDN primary rate access (2Mbps)	AE: D-sub/RJ45, EUT: D-sub/RJ45, with ADR T443	■			4	0.4	63	15	100 MHz

	Drawing	Frequency range	CDN type and application	Connector type	Immunity testing IEC/EN 61000-4-6	Immunity testing 10 kHz to 80 MHz	Emission testing CISPR 15/22	Number of lines	Max. EUT current [A]	Max. EUT voltage [V] for AC	Max. RF voltage [V]	3 dB bandwidth (sinusoidal)
CDN T444A	CDN T400A 	150 kHz to 80 MHz	T4 for up to 2 unscreened balanced wire pairs, 10BaseT, 100BaseT	AE: D-sub/RJ45, EUT: D-sub/RJ45, with ADR T444	■			4	0.4	63	15	100 MHz
CDN T445A	CDN T400A 	150 kHz to 80 MHz	T4 for up to 2 unscreened balanced wire pairs, ATM, FDDI	AE: D-sub/RJ45, EUT: D-sub/RJ45, with ADR T445	■			4	0.4	63	15	100 MHz
CDN T4A	CDN T400A 	150 kHz to 80 MHz	T4 for up to 2 unscreened balanced wire pairs with 5 adapter sets	AE: D-sub/RJxx, EUT: D-sub/RJxx, with ADR 411, 442, 443, 444, 445	■			4	0.4	63	15	100 MHz
CDN T8	CDN T800 	150 kHz to 80 MHz	T8 for up to 4 unscreened balanced wire pairs with 2 adapter sets	AE: D-sub/RJxx, EUT: D-sub/RJxx, with ADR 811, 800	■			8	0.4	63	15	100 MHz