

Line Filters

FEATURES

- High Inductance
- Suitable for high density automatic insertion
- Ideal for high frequency applications

V Series (Vertical 290, 450, 650, & 850)

M Series (Type 11M, 14M, & 16M)

H Series (Horizontal 200, 270, 400, & 600)

N Series (Type 15N, 18N, 20N, 17N, 19N, 21N)

ELECTRICAL SPECIFICATIONS

Operating Temperature: -20°C TO +105°C

Rated Voltage: AC 250 Vrms Max

Dielectric Strength: 2Kvac/1 minute

V SERIES (VERTICAL)

Part Number	Inductance (mH min.)	Rated Current (A rms.) 50/60 Hz
TYPE 290		
CT18D290B	0.82	2.0
CT18D290D	1.20	1.6
CT18D290V	1.80	1.5
CT18D290T	2.20	1.3
CT18D290E	2.70	1.1
CT18D290S	3.30	1.1
CT18D290R	3.90	1.0
CT18D290M	5.60	0.8
CT18D290P	6.80	0.7
CT18D290L	8.20	0.6
CT18D290G	10.0	0.6
CT18D290A	18.0	0.5
CT18D290C	22.0	0.4
CT18D290H	33.0	0.3

TYPE 450		
CT18D450M	1.20	3.0
CT18D450C	2.20	2.2
CT18D450A	2.70	2.0
CT18D450K	3.90	1.8
CT18D450D	5.60	1.4
CT18D450L	6.80	1.2
CT18D450G	8.20	1.1
CT18D450J	10.0	1.0
CT18D450B	18.0	0.8
CT18D450H	39.0	0.5
CT18D450Q	56.0	0.4

Part Number	Inductance (mH min.)	Rated Current (A rms.) 50/60 Hz
TYPE 650		
CT18D650M	1.50	3.1
CT18D650G	1.80	2.8
CT18D650B	3.30	2.4
CT18D650C	8.20	1.7
CT18D650W	10.0	1.4
CT18D650J	12.0	1.3
CT18D650D	15.0	1.1
CT18D650H	33.0	0.8
CT18D650U	47.0	0.7
CT18D650A	2.20	2.8
CT18D650Z	2.70	2.7
CT18D650Y	4.70	2.5
CT18D650X	5.60	2.2
CT18D650K	6.80	2.0
CT18D650J	12.0	1.6
CT18D650V	27.0	1.0
CT18D650S	68.0	0.6

TYPE 850		
CT18D850M	1.50	5.0
CT18D860B	2.20	4.5
CT18D850B	3.30	4.2
CT18D850P	3.90	3.7
CT18D850Y	4.70	3.5
CT18D850X	5.60	3.4
CT18D850C	8.20	3.0
CT18D850W	10.0	2.5
CT18D850D	15.0	2.0
CT18D850Q	18.0	1.9
CT18D860C	22.0	1.8
CT18D850Z	27.0	1.5
CT18D850H	33.0	1.4
CT18D850U	47.0	1.2

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H & M SERIES (HORIZONTAL AND VERTICAL)

Part Number	Inductance (mH min.)	Rated Current (A rms.) 50/60 Hz
TYPE 200		
CT18D217	1.5	1.60
CT18D219	2.70	1.30
CT18D216	3.90	1.00
CT18D225	6.80	0.80
CT18D214	8.20	0.70
CT18D210	18.0	0.50
CT18D218	22.0	0.40
CT18D212F	1.0	2.10
CT18D230F	1.20	2.00
CT18D228F	2.20	1.50
CT18D227F	4.70	1.00
CT18D221F	33.0	0.40
CT18D235F	47.0	0.30
CT18D222F	68.0	0.25
TYPE 270		
CT18D270C	1.80	1.5
CT18D270D	2.70	1.1
CT18D270Q	5.60	0.8
CT18D270A	6.80	0.7
CT18D270G	10.0	0.6
CT18D270H	18.0	0.5
CT18D270B	22.0	0.4
CT18D270J	33.0	0.3
TYPE 400		
CT18D419	1.50	2.4
CT18D414	3.30	1.8
CT18D433	3.90	1.5
CT18D412	6.80	1.2
CT18D415	8.20	1.0
CT18D430	12.0	0.9
CT18D423	27.0	0.6
CT18D428	33.0	0.5
CT18D441F	0.56	3.4
CT18D420F	1.20	3.0
CT18D435F	2.20	2.2
CT18D434F	2.70	2.0
CT18D424F	5.60	1.4
CT18D431F	10.0	1.0
CT18D417F	18.0	0.8
CT18D427F	39.0	0.5
CT18D437F	68.0	0.4
TYPE 600		
CT18D608	1.0	3.4
CT18D610	1.5	3.1
CT18D614	1.8	2.8
CT18D611	2.7	2.6

Part Number	Inductance (mH min.)	Rated Current (A rms.) 50/60 Hz
CT18D604	4.7	2.0
CT18D603	5.6	1.8
CT18D602	8.2	1.7
CT18D612	22.0	1.0
CT18D618	27.0	0.8
CT18D615	39.0	0.7
CT18D607	68.0	0.5
CT18D617F	2.2	2.8
CT18D604F	4.7	2.5
CT18D603F	5.6	2.1
CT18D601F	10.0	1.6
CT18D609F	12.0	1.6
CT18D606F	18.0	1.2
CT18D624F	33.0	0.8
M SERIES • TYPE 11M		
CT11M010E	30.0	0.1
CT11M020E	12.0	0.2
CT11M030E	6.0	0.3
CT11M040E	3.5	0.4
CT11M050E	2.5	0.5
CT11M060E	1.5	0.6
CT11M070E	1.0	0.7
CT11M080E	0.8	0.8
CT11M090E	0.7	0.9
CT11M0100E	0.5	1.0
TYPE 14M		
CT14M010E	30.0	0.1
CT14M020E	12.0	0.2
CT14M030E	6.0	0.3
CT14M040E	3.5	0.4
CT14M050E	2.5	0.5
CT14M060E	1.5	0.6
CT14M070E	1.0	0.7
CT14M080E	0.8	0.8
CT14M090E	0.7	0.9
CT14M100E	0.5	1.0
TYPE 16M		
CT16M020A	28.0	0.2
CT16M030A	20.0	0.3
CT16M040A	15.0	0.4
CT16M050A	8.0	0.5
CT16M060A	7.0	0.6
CT16M070A	5.0	0.7
CT16M080A	3.5	0.8
CT16M0100A	2.0	1.0
CT16M0130A	1.0	1.3
CT16M0150A	0.8	1.5

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N SERIES

Part Number	Inductance (mH min.)	Rated Current (A rms.) 50/60 Hz
TYPE 15N		
CT15N002A	104.0	0.2
CT15N003A	43.0	0.3
CT15N004A	26.0	0.4
CT15N005A	19.0	0.5
CT15N006A	12.0	0.6
CT15N007A	10.0	0.7
CT15N008A	6.8	0.8
CT15N010A	5.3	1.0
CT15N011A	4.0	1.1
CT15N013A	2.7	1.3
CT15N015A	2.1	1.5
CT15N017A	1.7	1.7
CT15N022A	1.0	2.2
CT15N030A	0.6	3.0

TYPE 18N		
CT18N004A	80.0	0.4
CT18N005A	50.0	0.5
CT18N006A	35.0	0.6
CT18N008A	20.0	0.8
CT18N010A	15.0	1.0
CT18N012A	9.5	1.2
CT18N016A	6.0	1.6
CT18N020A	4.2	2.0
CT18N025A	2.4	2.5
CT18N032A	1.4	3.2

TYPE 20N		
CT20N006A	69.0	0.6
CT20N008A	43.0	0.8
CT20N010A	28.0	1.0
CT20N013A	18.0	1.3
CT20N015A	14.0	1.5
CT20N016A	12.0	1.6
CT20N018A	7.5	1.8
CT20N020A	7.0	2.0
CT20N022A	6.2	2.2
CT20N024A	4.9	2.4
CT20N027A	4.7	2.7
CT20N030A	2.9	3.0
CT20N035A	2.0	3.5
CT20N040A	1.5	4.0

Part Number	Inductance (mH min.)	Rated Current (A rms.) 50/60 Hz
TYPE 17N		
CT17N002A	142.0	0.2
CT17N003A	60.0	0.3
CT17N004A	35.0	0.4
CT17N005A	26.0	0.5
CT17N006A	16.0	0.6
CT17N007A	14.0	0.7
CT17N008A	9.2	0.8
CT17N010A	7.2	1.0
CT17N011A	5.4	1.1
CT17N013A	3.7	1.3
CT17N015A	2.9	1.5
CT17N017A	2.3	1.7
CT17N022A	1.3	2.2
CT17N030A	0.8	3.0

TYPE 19N		
CT19N004A	99.0	0.4
CT19N005A	65.0	0.5
CT19N006A	43.0	0.6
CT19N008A	25.0	0.8
CT19N010A	19.0	1.0
CT19N012A	12.0	1.2
CT19N016A	7.4	1.6
CT19N020A	5.1	2.0
CT19N025A	3.0	2.5
CT19N032A	1.7	3.2

TYPE 21N		
CT21N006A	87.0	0.6
CT21N008A	54.0	0.8
CT21N010A	36.0	1.0
CT21N013A	22.0	1.3
CT21N015A	18.0	1.5
CT21N016A	15.0	1.6
CT21N018A	9.4	1.8
CT21N020A	8.7	2.0
CT21N022A	7.8	2.2
CT21N024A	6.1	2.4
CT21N027A	5.8	2.7
CT21N030A	3.7	3.0
CT21N035A	2.5	3.5
CT21N040A	1.9	4.0

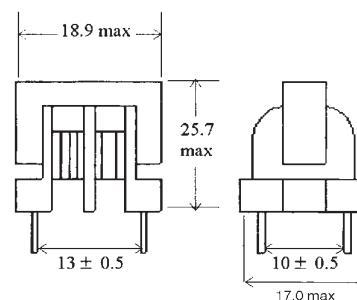
COMMON MODE CHOKES, UU STYLE

CCMU16 Series, 250 VAC

Common mode chokes are used to minimize the common mode noise fed back into the power line by switching power supplies and other devices such as triacs, SCRs relays, etc.

CET common mode chokes incorporate several features that help designers meet the filtering requirements of international safety agencies as well as to optimize the circuit for particular noise levels and frequencies produced by each power supply design.

- 3 mm creepage for meeting UL, VDE IEC, CSA requirements
- UL approved Class 130°C insulation system is available
- 3750 RMS isolation between windings
- Windings balanced within 1%



(Unit: mm)

SPECIFICATIONS FOR CMU16 SERIES

Part Number	Inductance* L (mH)	Rated** Current (Arms)	DCR Max Ω
CCMU16-333	33.0	0.3	3.50
CCMU16-223	33.0	0.4	2.00
CCMU16-153	22.0	0.5	1.50
CCMU16-103	15.0	0.5	1.50
CCMU16-802	10.0	0.5	1.00
CCMU16-602	8.0	0.8	0.50
CCMU16-502	6.0	0.6	0.70
CCMU16-322	5.0	1.2	0.30
CCMU16-302	3.2	1.0	0.34
CCMU16-202	2.0	1.0	0.30
CCMU16-101	1.0	1.0	0.25
CCMU16-102	1.0	2.0	0.15
CCMU16-152	1.5	2.0	0.20

* Inductance is minimum per winding, as measured on HP 4263A meter or equivalent.

** At the rated current temperature, rise is less than 60°C.

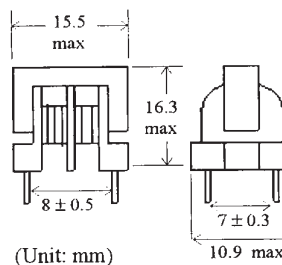
For custom values of inductance and current ratings, contact CET.

COMMON MODE CHOKES, UU STYLE

Special Small Size CCMU10 Series

CCMU10 common mode chokes have been specially developed by CET in a very small package size in order to save the crucial printed circuit area. A wide range of inductance values are available for the designers to choose from.

- 1.6 mm creepage for meeting UL, CSA requirements
- UL approved Class 130°C insulation system is available
- 1500 VRMS isolation between windings
- Windings balanced within 1%



SPECIFICATIONS FOR CMU10 SERIES

Part Number	Inductance* L (mH)	Rated** Current (Arms)	DCR Max Ω
CCMU10-221	0.22	0.71	0.04
CCMU10-391	0.39	0.58	0.06
CCMU10-471	0.47	0.50	0.08
CCMU10-561	0.56	0.47	0.09
CCMU10-681	0.68	0.45	0.10
CCMU10-821	0.82	0.40	0.13
CCMU10-102	1.0	0.38	0.14
CCMU10-152	1.5	0.30	0.23
CCMU10-222	2.2	0.27	0.27
CCMU10-272	2.7	0.24	0.35
CCMU10-332	3.3	0.20	0.53
CCMU10-392	3.9	0.19	0.57
CCMU10-472	4.7	0.18	0.63
CCMU10-562	5.6	0.15	0.87
CCMU10-682	6.8	0.13	1.15
CCMU10-822	8.2	0.12	1.30
CCMU10-103	10	0.10	1.80
CCMU10-153	15	0.08	2.80
CCMU10-223	22	0.07	3.50
CCMU10-273	27	0.06	4.80
CCMU10-333	33	0.05	6.70

* Inductance is minimum per winding, as measured on HP 4263A meter or equivalent.

** At the rated current temperature, rise is less than 60°C.

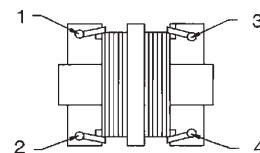
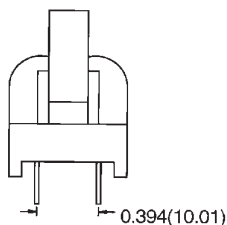
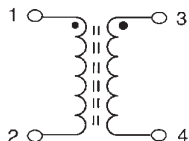
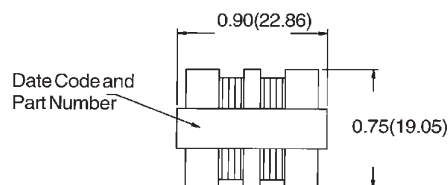
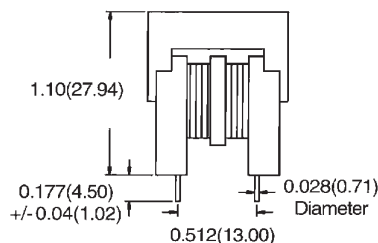
For custom values of inductance and current ratings, contact CET.

COMMON MODE CHOKES

Common Mode chokes can be used to minimize EMI radiated noise in the common mode on all power applications. CET offers a variety of inductances and rated currents to provide full coverage of power requirements.

- 2000 volts AC for 60 seconds isolation voltage
- 250 volts AC/DC rated voltage
- Insulation resistance is 100 Mohms minimum at 500 VDC

ELECTRICAL SPECIFICATIONS @ 25°C			
Part Number	Rated Current 1/Line	Inductance OCL (mH) Min.	DCR (ohm/line) Max
CCMU23-0303-00	0.40	30.0	2.80
CCMU23-0203-00	0.40	20.0	2.20
CCMU23-0203-01	0.50	20.0	1.60
CCMU23-0103-00	0.60	10.0	1.20
CCMU23-0083-00	0.80	8.00	0.80
CCMU23-0063-00	0.80	6.00	0.70
CCMU23-0063-01	1.00	6.00	0.50
CCMU23-0043-00	1.00	4.00	0.40
CCMU23-0033-00	0.75	3.00	1.00
CCMU23-0033-01	1.20	3.00	0.40
CCMU23-0023-00	1.20	2.00	0.30
CCMU23-0013-00	1.50	1.50	0.30



Cross Reference: Bel 0571 Series

CET COMMON MODE CHOKES

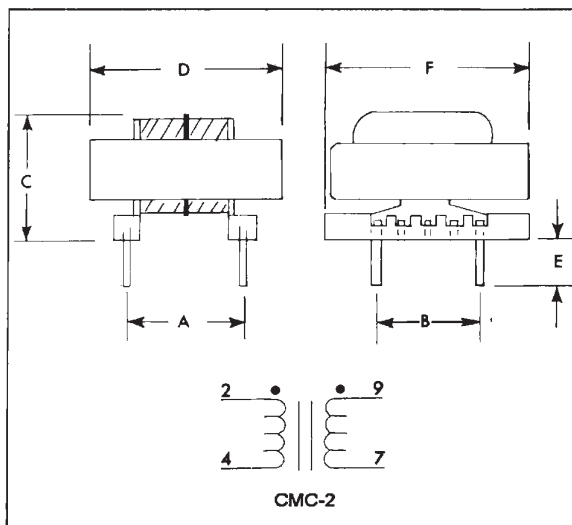
MODEL CMC-

FEATURES

CET Common Mode Chokes are designed to help meet U.S. and international requirements for safety and EMI. By placing these chokes at the inputs of electrical equipment or circuits, EMI feedback can be kept within specified limits. These low-priced chokes are available in a wide range of standard inductances and current ratings from 100mA to 5.5 AMPS

- Low profile
- 2500 VAC hipot
- Custom versions also available

Style	A	B	C	D	E	F	Size	Term. No.
CMC-1	.515	.200	.622	.750	.175	0.850	.025 SQ.	4
CMC-2	.630	.400	.797	.850	.175	1.100	.025 SQ.	4



CET Part No.	L@ 1KC (μH)*	Max. DCR (Ohms)	Suggested Rated Current	Leakage L. Max. (μH)†	Max. Interwinding Capacitance (pF)
CMC-1-47	47	.016	3.5	4.0	6.
CMC-1-56	56	.018	3.5	4.0	7.
CMC-1-68	68	.019	3.5	5.0	8.
CMC-1-82	82	.023	2.8	5.5	8.5
CMC-1-100	100	.025	2.8	6.0	8.5
CMC-1-120	120	.028	2.8	6.5	8.5
CMC-1-150	150	.030	2.8	7.5	8.5
CMC-1-180	180	.038	2.2	8.0	8.5
CMC-1-220	220	.044	2.2	9.0	8.5
CMC-1-270	270	.051	2.2	10.	8.5
CMC-1-330	330	.058	1.7	11.	8.5
CMC-1-470	470	.078	1.4	16.	8.5
CMC-1-560	560	.091	1.4	18.	10.
CMC-1-680	680	.115	1.1	20.	10.
CMC-1-820	820	.131	1.1	25.	11.5
CMC-1-1000	1000	.194	.88	35.	11.5
CMC-1-1200	1200	.219	.88	47.	11.5
CMC-1-1500	1500	.278	.70	49.	11.5
CMC-1-1800	1800	.306	.70	59.	11.5
CMC-1-2200	2200	.431	.55	76.	12.5
CMC-1-2700	2700	.469	.55	91.	12.5
CMC-1-3300	3300	.531	.55	101.	17.
CMC-1-3900	3900	.689	.44	135.	17.
CMC-1-4700	4700	.760	.44	158.	17.
CMC-1-5600	5600	.853	.44	196.	17.
CMC-1-6800	6800	1.24	.35	257.	17.
CMC-1-8200	8200	1.40	.35	296.	17.
CMC-1-10000	10000	1.61	.35	362.	17.
CMC-1-12000	12000	1.98	.27	410.	17.
CMC-1-15000	15000	2.24	.27	503.	17.
CMC-1-18000	18000	2.45	.27	602.	17.
CMC-1-22000	22000	3.49	.22	730.	20.
CMC-1-27000	27000	4.60	.17	870.	20.
CMC-1-33000	33000	5.21	.17	1150.	20.
CMC-1-39000	39000	7.19	.13	1300.	20.
CMC-1-47000	47000	7.80	.13	1541.	20.
CMC-1-56000	56000	8.69	.13	1875.	20.
CMC-1-68000	68000	9.69	.13	2254.	20.
CMC-1-82000	82000	13.1	.10	2702.	25.
CMC-1-100000	100000	14.6	.10	3289.	36.
CMC-1-120000	120000	16.0	.10	3456.	36.

* Measured between 2 and 3 or 6 and 7.

† Measured with 2 and 3 shorted or 6 and 7 shorted.

CET Part No.	L@ 1KC (μH)*	Max. DCR (Ohms)	Suggested Rated Current	Leakage L. Max. (μH)†	Max. Interwinding Capacitance (pF)
CMC-2-56	56	.013	5.5	3.5	9.
CMC-2-68	68	.013	5.5	3.5	9.
CMC-2-82	82	.013	5.5	3.5	9.
CMC-2-100	100	.013	5.5	3.5	9.
CMC-2-120	120	.015	5.5	4.8	9.
CMC-2-150	150	.016	5.5	6.5	9.
CMC-2-180	180	.019	4.5	7.2	9.
CMC-2-220	220	.023	4.5	7.75	10.
CMC-2-270	270	.026	4.5	9.5	10.
CMC-2-330	330	.028	3.5	12.5	11.5
CMC-2-470	470	.033	3.5	14.	11.5
CMC-2-560	560	.038	3.5	18.	11.5
CMC-2-680	680	.040	3.5	23.	11.5
CMC-2-820	820	.063	2.8	26.	11.5
CMC-2-1000	1000	.068	2.8	35.	12.5
CMC-2-1200	1200	.099	2.2	40.	12.5
CMC-2-1500	1500	.115	1.7	43.	12.5
CMC-2-1800	1800	.131	1.7	54.	12.5
CMC-2-2200	2200	.174	.14	61.5	12.5
CMC-2-2700	2700	.188	1.4	118.	12.5
CMC-2-3300	3300	.331	1.1	135.	15.
CMC-2-3900	3900	.438	1.1	155.	15.
CMC-2-4700	4700	.500	.88	168.	15.
CMC-2-5600	5600	.525	.88	216.	15.
CMC-2-6800	6800	.625	.70	246.	15.
CMC-2-8200	8200	.813	.70	257.	15.
CMC-2-10000	10000	.875	.70	293.	15.
CMC-2-12000	12000	.938	.55	370.	15.
CMC-2-15000	15000	1.1	.70	435.	17.
CMC-2-18000	18000	1.5	.55	514.	17.
CMC-2-22000	22000	1.9	.55	527.	17.
CMC-2-27000	27000	2.1	.44	637.	17.
CMC-2-33000	33000	2.4	.44	812.	17.
CMC-2-39000	39000	3.0	.44	1000.	17.
CMC-2-47000	47000	3.1	.44	1137.	17.
CMC-2-56000	56000	4.4	.35	1400.	17.
CMC-2-68000	68000	5.3	.27	1950.	17.
CMC-2-82000	82000	5.9	.27	2475.	18.75
CMC-2-100000	100000	6.9	.27	2625.	18.75
CMC-2-120000	120000	9.4	.22	3200.	18.75
CMC-2-150000	150000	10.6	.22	3800.	18.75

* Measured between 2 and 4 or 7 and 9.

† Measured with 2 and 4 shorted or 7 and 9 shorted.

CROSS REFERENCE:RENCO RL-1361-1 and RL-1361-2