

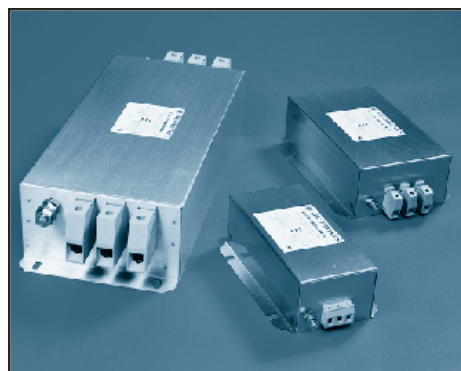
Three Phase Filters 440-520Vac 8-450 Amps

Industrial Applications

F.LL.D3.***A.AN/HN. *1 series

Description

Professional three phase filter range with high attenuation characteristics, especially designed for industrial based frequency inverters and motor drives. Available in 440Vac and 520Vac models, with a choice of terminal blocks on all models or threaded terminals up to 110 Amp, provides flexibility on a range of products that have now become an industry standard.

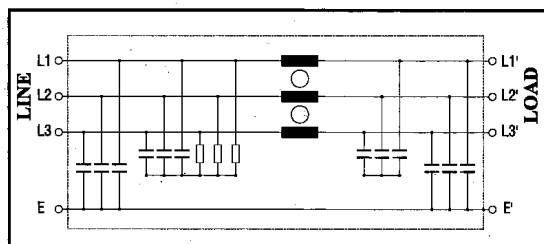


Mechanical Specification

Manufacture: Tin plated steel enclosure. Electrical components sealed with self-extinguishing resin.

Connections: Lines: Threaded with nuts + washers 8A to 110A inclusive.
Terminal blocks all current ratings.
Earth: Threaded with nuts + washer: 8A to 50A = M6; 80A to 280A = M10; 450A = M16

Circuit Diagram



Circuit Diagram A

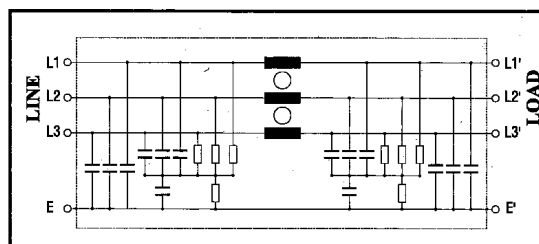
Electrical Specifications

Rated Voltage (VR) : 'AN': 440Vac, 50/60Hz at 40°C
'HN': 520Vac, 50/60Hz at 40°C
Leakage Current(IL) : At VR/ ±3, 50Hz, max value
Voltage Test (2s) : Line to Line 1700Vdc
Lines to Ground 'AN'- 3200Vdc
'HN'- 3470Vdc
Climatic Category : HPF (25/085/21);
Temp. Range: -25°C to +85°C

Approvals



Except models marked*



Circuit Diagram B

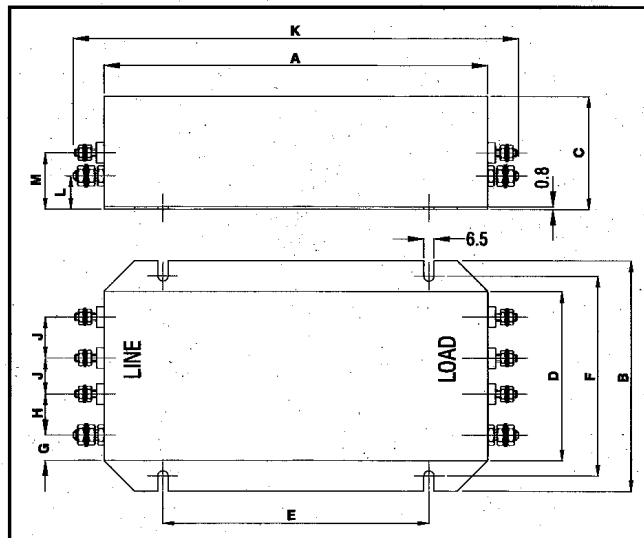
Available Models

Code	Rated Current @ 40° C	Δ Leakage Current (max@440V)	Line to Line Capacitors	Line to Ground Capacitors	Line Inductance	Discharge Resistance	Line Resistance mΩ	Circuit Diagram
F.LL.D3.008A.-'N.I1 F.LL.D3.008A.-'N.R1	8A	18mA	3x2.2μF(X2)MKT + 3x1.0μF(X2)MKT	3x10nF(Y2) + 3x47nF(Y2)	3x7.6mH	3 x 1MΩ	< 38	A
F.LL.D3.016A.-'N.I1 F.LL.D3.016A.-'N.R1	16A	18mA	3x4.4μF(X2) MKT + 3x2.2μF(X2) MKT	3x10nF(Y2) + 3x47nF(Y2)	3x5.2mH	3 x 1MΩ	< 10	A
F.LL.D3.025A.-'N.I1 F.LL.D3.025A.-'N.R1	25A	205mA	3x4.4μF(X2)MKT + 3x4.4μF(X2)MKT	3x10nF(Y2) + 2x1μF(Y2) + 3x94nF(Y2)	3x2.2mH	6 x 1.5MΩ + 2 x 680kΩ	< 4.3	B
F.LL.D3.036A.-'N.I1 F.LL.D3.036A.-'N.R1	36A	205mA	3x4.4μF(X2)MKT + 3x4.4μF(X2)MKT	3x10nF(Y2) + 2x1μF(Y2) + 3x94nF(Y2)	3x1.3mH	6 x 1.5MΩ + 2 x 680kΩ	< 2.4	B
F.LL.D3.050A.-'N.I1 F.LL.D3.050A.-'N.R1	50A	205mA	3x4.4μF(X2)MKT + 3x4.4μF(X2)MKT	3x10nF(Y2) + 2x1μF(Y2) + 3x94nF(Y2)	3x0.8mH	6 x 1.5MΩ + 2 x 680kΩ	< 1.5	B
F.LL.D3.080A.-'N.I1 F.LL.D3.080A.-'N.R1	80A	235mA	3x6.7μF(X2)MKT + 3x6.7μF(X2)MKT	3x94nF(Y2) + 2x1μF(Y2) + 3x94nF(Y2)	3x0.9mH	6 x 1.5MΩ + 2 x 680kΩ	< 1.2	B
F.LL.D3.110A.-'N.I1 F.LL.D3.110A.-'N.R1	110A	235mA	3x6.7μF(X2)MKT + 3x6.7μF(X2)MKT	3x94nF(Y2) + 2x1μF(Y2) + 3x94nF(Y2)	3x0.5mH	6 x 1.5MΩ + 2 x 680kΩ	< 0.7	B
F.LL.D3.180A.-'N.R1	180A	235mA	3x5μF(X2)MKT + 3x5μF(X2)MKT	3x94nF(Y2) + 2x1μF(Y2) + 3x94nF(Y2)	3x0.5mH	6 x 1.5MΩ + 2 x 680kΩ	< 0.5	B
F.LL.D3.280A.-'N.R1	280A	370mA	3x10μF(X2)MKT + 3x10μF(X2)MKT	3x282nF(Y2) + 2x1μF(Y2) + 3x282nF(Y2)	3x0.31mH	6 x 1.5MΩ + 2 x 680kΩ	< 0.3	B
F.LL.D3.450A.-'N.R1*	450A	370mA	3x10μF(X2)MKT + 3x10μF(X2)MKT	3x282nF(Y2) + 2x1μF(Y2) + 3x282nF(Y2)	3x0.075mH	6 x 1.5MΩ + 2 x 680kΩ	< 0.25	B

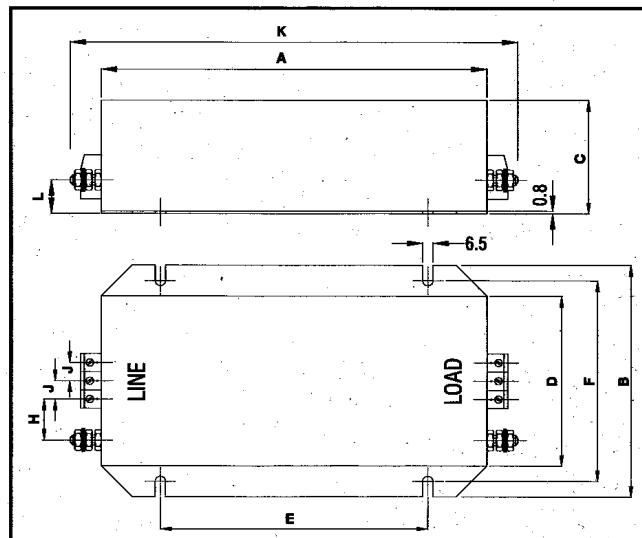
'-' = A : 440Vac
= H : 520Vac

I = Threaded Terminals R = Terminal Blocks
Δ = See note inside cover.

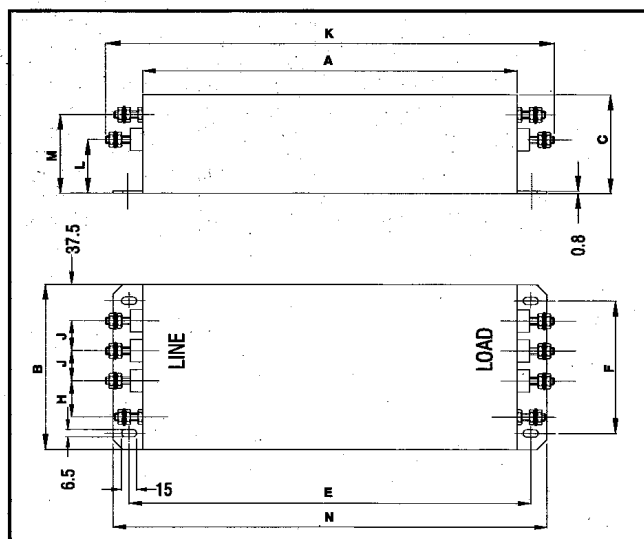
Dimensions (mm) and Connections



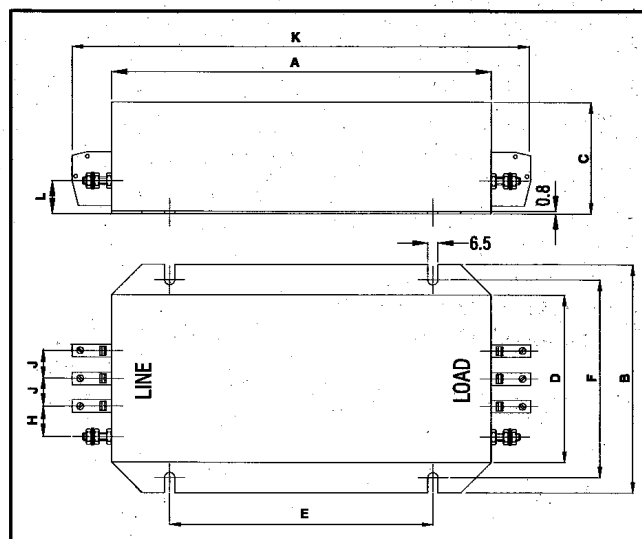
Case R 8-50A 'I1' variants



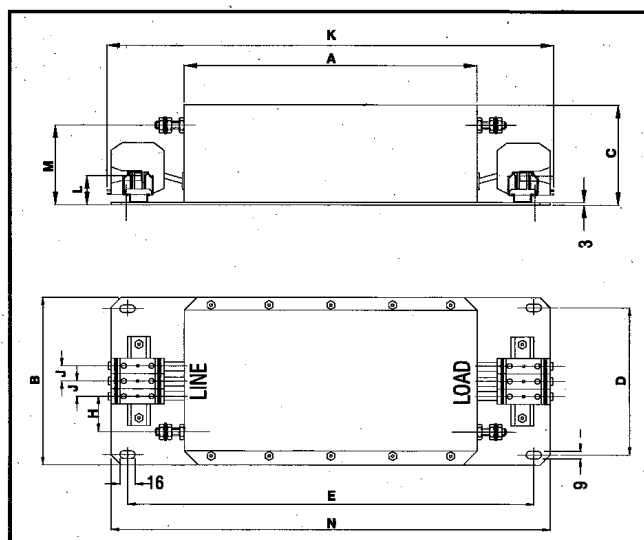
Case S 8-16A 'R1' variants



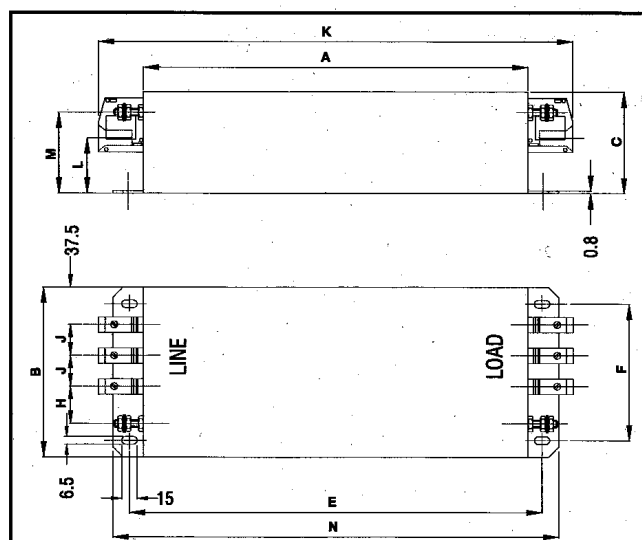
Case T 80-110A 'I1' variants



Case U 25-50A 'R1' variants



Case V 180-450A 'R1' variants



Case W 80-110A 'R1' variants

Dimensions

Dimensions - mm	A	B	C	D	E	F	G	H	J	K	L	M	N	Case	Terminal Size
F.LL.D3.008A.'-N.II	180	115	60	85	115	100	20	15	15	210	17	30	-	R	M4
F.LL.D3.008A.'-N.R1	180	115	60	85	115	100	20	19.5	10	210	17	-	-	S	4mm ²
F.LL.D3.016A.'-N.II	200	150	65	120	115	135	15	30	30	230	17	30	-	R	M4
F.LL.D3.016A.'-N.R1	200	150	65	120	115	135	15	31	10	230	17	-	-	S	4mm ²
F.LL.D3.025A.'-N.II	200	150	65	120	115	135	15	30	30	250	17	30	-	R	M6
F.LL.D3.025A.'-N.R1	200	150	65	120	115	135	15	21	20	250	17	-	-	U	10mm ²
F.LL.D3.036A.'-N.II	200	150	65	120	115	135	15	30	30	250	17	30	-	R	M6
F.LL.D3.036A.'-N.R1	200	150	65	120	115	135	15	21	20	250	17	-	-	U	10mm ²
F.LL.D3.050A.'-N.II	200	150	65	120	115	135	15	30	30	250	17	30	-	R	M6
F.LL.D3.050A.'-N.R1	200	150	65	120	115	135	15	21	20	250	17	-	-	U	10mm ²
F.LL.D3.080A.'-N.II	350	170	90	170	375	130	37.5	35	30	420	46	70	400	T	M10
F.LL.D3.080A.'-N.R1	350	170	90	170	375	130	37.5	35	30	427	46	70	400	W	25mm ²
F.LL.D3.110A.'-N.II	350	170	90	170	375	130	35	36	32	420	44	70	400	T	M10
F.LL.D3.110A.'-N.R1	350	170	90	170	375	130	35	36	32	436	44	70	400	T	50mm ²
F.LL.D3.180A.'-N.R1	300	180	128	140	470	156	15	28	25	537	38	88	510	V	95mm ²
F.LL.D3.280A.'-N.R1	450	260	153	220	660	220	51	28	31	742	47	103	700	V	150mm ²
F.LL.D3.450A.'-N.R1	450	260	153	220	660	220	51	28	31	742	47	103	700	V	240mm ²

I = Threaded Terminals

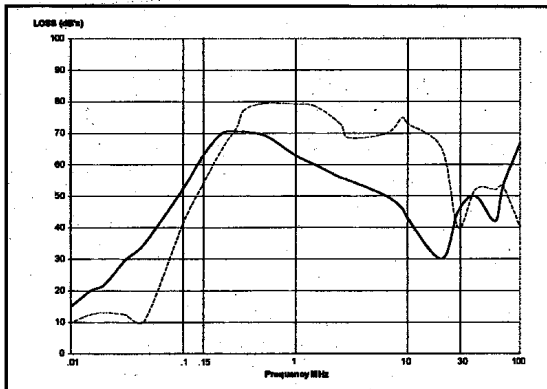
R = Terminal Blocks

'-' = A : 440Vac

= H : 520Vac

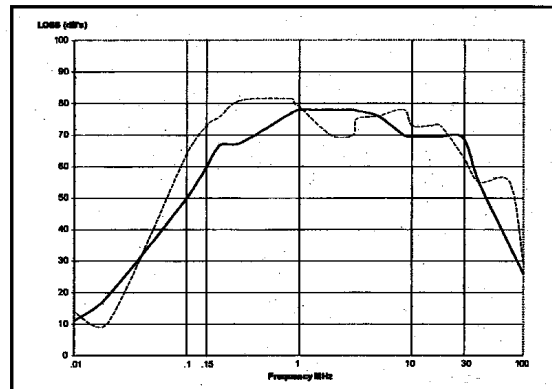
Insertion Loss (Typical 50 W/50W)

8 Amp

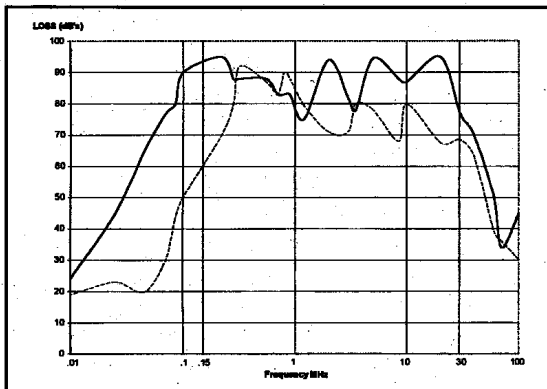


----- Symmetric (Line to Line)
 ——— Asymmetric (Lines to Ground)

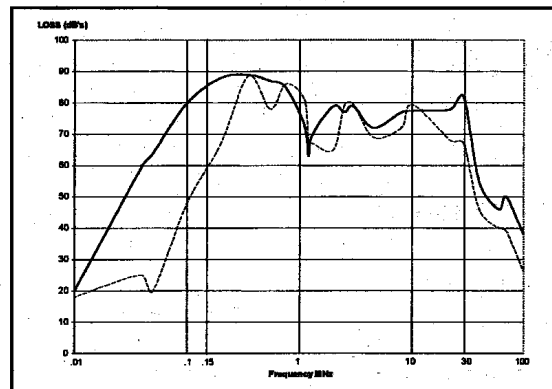
16 Amp



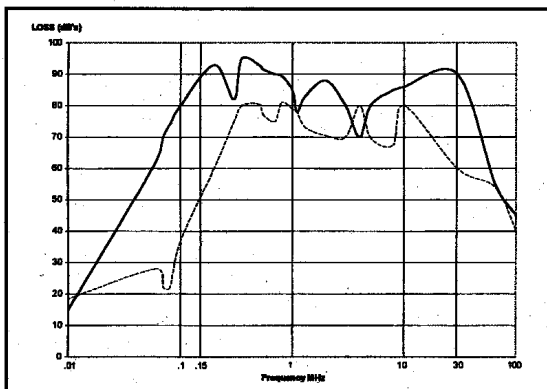
25 Amp



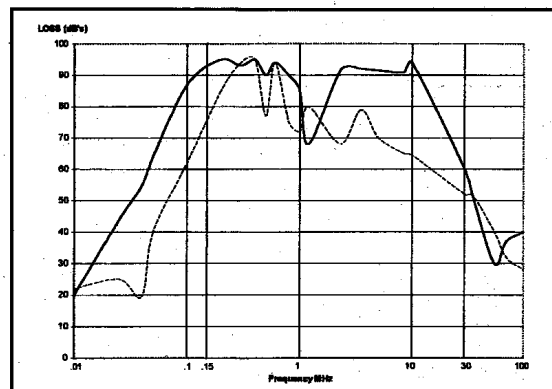
36 Amp



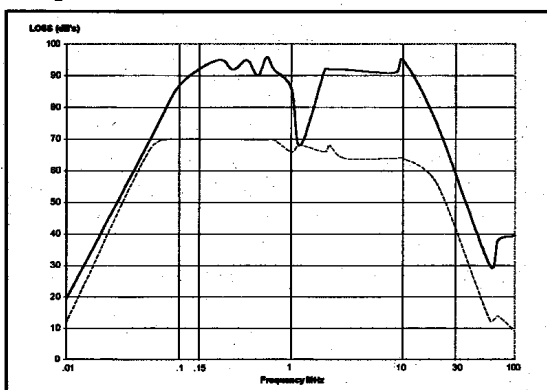
50 Amp



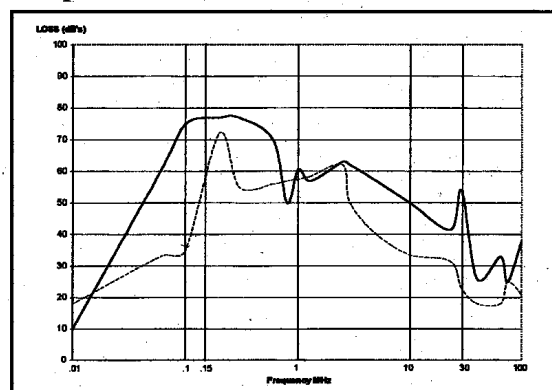
80 Amp



110 Amp



180 Amp



280A and 450A Performance available on request.