

Saturating Chokes and Linear/Saturating Chokes



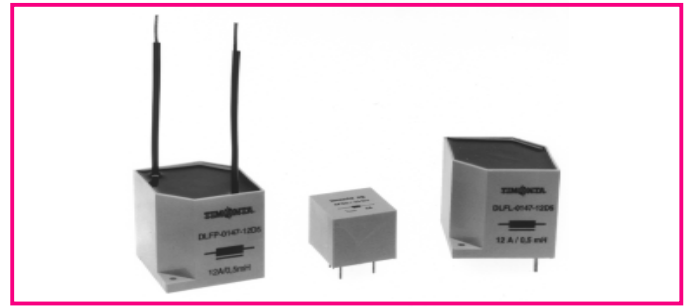
DFSG, DLFP and DLFL Series

Nominal current:	0.8 - 45 A @ ϑ_a 45°C
Nominal inductance:	50 - 1000 μH / tol. \pm 15%
Rated voltage U_R ($U_{max.}$):	440 VAC
Frequency:	50Hz
Isolation voltage:	2 kV eff. / wdg.-ambient
Climatic category:	25/100/21 acc. to IEC 60068-1
Plastic case:	UL 94 V-0
Potting resin:	UL 94 V-0

All types of chokes correspond to the international specifications for radio interference chokes (EN 138100).

Magnetic saturating chokes are used mainly in phase angle control circuits using thyristors, triacs or transistors. These chokes are called non-linear inductances. Together with capacitors, they perform as an LC-filter at the point of switching. As soon as the current starts to flow, the inductance reduces considerably and at the point of complete saturation, its value is approximately than of an air cored coil. Chokes of this kind are very popular due to their low cost-volume ratio.

The new DLFP/DLFL series of chokes still show more than 40% of their inductance at I_N . Due to this characteristic, we call them «linear-saturating chokes».

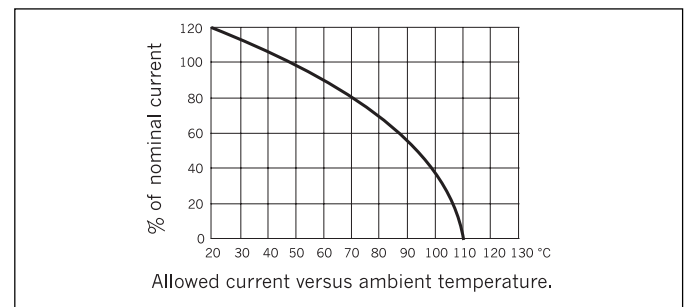


The use of iron powder toroids will reduce to negligible levels an undesirable noise which may be generated by the usage of iron laminations core. The new chokes (DLFP, DLFL) were developed for rated current above 10A.

Saturating and linear chokes act at their optimum when they are mounted directly at the interference originator (thyristor, triac). For highest requirements concerning the interference suppression is recommended a combination of two saturation chokes (application 1) or a saturation chokes together with a magnetically compensated multiple choke (application 2).

Technical Data saturating chokes DFSG

Type	I_N [A]	Dimensions A x D x H [mm]	C x 1 / C x 2 [μ F]	R_{cu} (2) [m Ω]	Case
DFSG1-20-0.8/a	0.8	18 x 18 x 15	0.10/0.15	1300	00
DFSG1-20-1.5/a	1.5	18 x 18 x 15	0.10/0.15	450	00
DFSG1-25-2/a	2	22 x 22 x 18	0.15/0.22	260	08
DFSG1-25-3/a	3	22 x 22 x 18	0.15/0.22	100	08
DFSG1-30-3/a	3	30 x 30 x 22	0.15/0.22	165	17
DFSG1-30-6/a	6	30 x 30 x 22	0.22/0.22	60	17
DFSG1-33-5/a	5	33 x 33 x 25	0.22/0.22	70	21
DFSG1-33-10/a	10	33 x 33 x 25	0.47/0.47	30	21



Technical Data linear-saturating chokes DLFP with leads connection

Type	I_N [A]	(1) L/L at I_N [mH]	I_{true} [A]	R_{cu} (2) [m Ω]	Power loss [W]	f_{Res} [MHz]	Energy [A ² x mH]	Noise level (3) [dB μ V]	Cx [μ F]	Connection [mm]	Case
DLFP-0125-0501	5	1.0/0.4	5	120	3	0.8	25	54	0.047	\varnothing 1.0	25W
DLFP-0125-08D5	8	0.5/0.2	8	54	3.5	1.32	32	56	0.1	\varnothing 1.25	25W
DLFP-0147-12D5	12	0.5/0.2	12	38	5.5	1.16	72	60	0.1	\varnothing 1.7	47W
DLFP-0147-16D3	16	0.3/0.12	16	25	6.4	1.69	79	60	0.22	\varnothing 1.8	47W
DLFP-0147-25D2	25	0.15/0.05	25	10	6.3	2.5	94	60	0.47	\varnothing 2.36	47W
DLFP-0147-35C5	35	0.05/0.02	35	5.3	6.5	3.5	61	62	1.5	\square 1.5 x 4.5	47W
DLFP-0132-45D2	45	0.2/0.06	45	6	12	1.1	405	55	1	\square 2 x 5	32W

Technical Data linear-saturating chokes DLFL for PCB mounting

Type	I_N [A]	(1) L/L at I_N [mH]	I_{true} [A]	R_{cu} (2) [m Ω]	Power loss [W]	f_{Res} [MHz]	Energy [A ² x mH]	Noise level (3) [dB μ V]	Cx [μ F]	Connection [mm]	Case
DLFL-0125-0501	5	1.0/0.4	5	120	3	0.8	25	54	0.047	\varnothing 1.0	25-P
DLFL-0125-08D5	8	0.5/0.2	8	54	3.5	1.32	32	56	0.1	\varnothing 1.25	25-P
DLFL-0147-12D5	12	0.5/0.2	12	38	5.5	1.16	72	60	0.1	\varnothing 1.7	47-P
DLFL-0147-16D3	16	0.3/0.12	16	25	6.4	1.69	79	60	0.22	\varnothing 1.8	47-P
DLFL-0147-25D2	25	0.15/0.05	25	10	6.3	2.5	94	60	0.47	\varnothing 2.36	47-P
DLFL-0147-35C5	35	0.05/0.02	35	5.3	6.5	3.5	61	62	1.5	\square 1.5 x 4.5	47-P
DLFL-0132-45D2	45	0.2/0.06	45	6.0	12	1.1	405	55	1	\square 2 x 5	32-P

(1) Nominal inductance measured according to EN 138100, see introduction of this catalog, Paragraph 3.4

(2) Resistance @ ϑ_a 25°C

(3) Measured at 150 kHz according to VDE 0565, Part 2 and EN 55014 Quasi Peak.

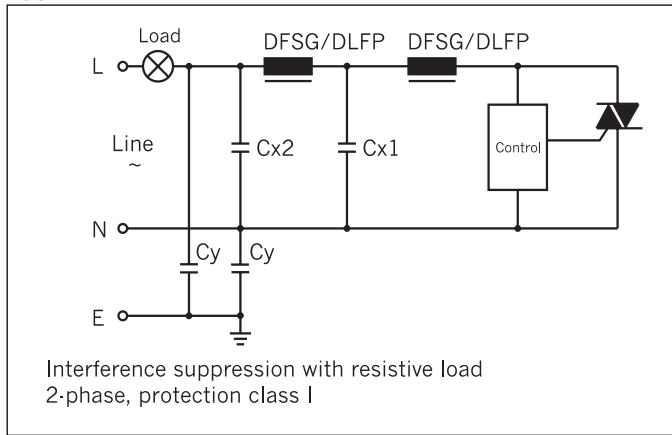
The measuring diagram correspond to application example 3, without C_r capacitors.

Saturating Chokes

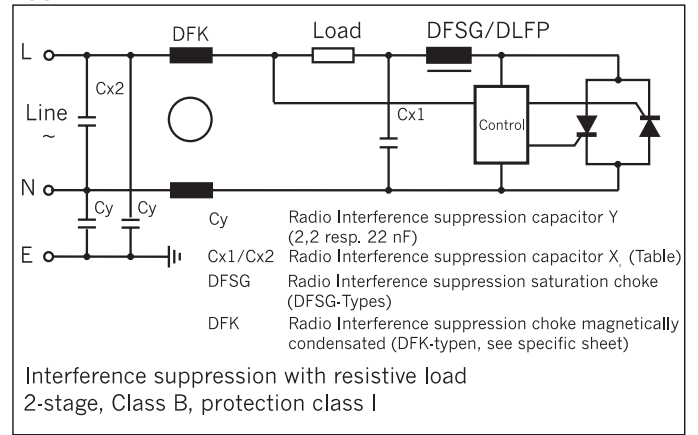
DFSG, DLFP and DLFL Series, applications, cases



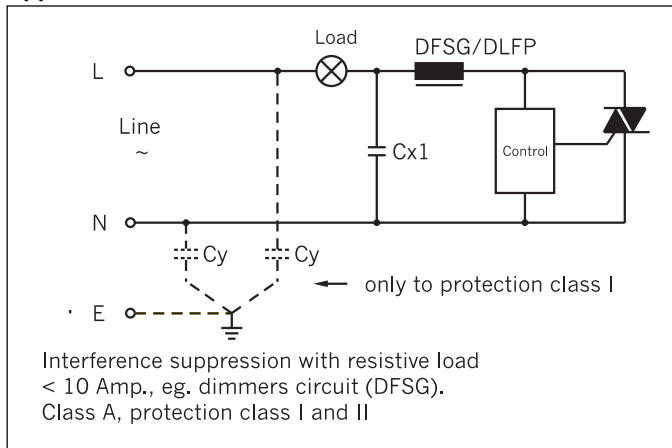
Application 1



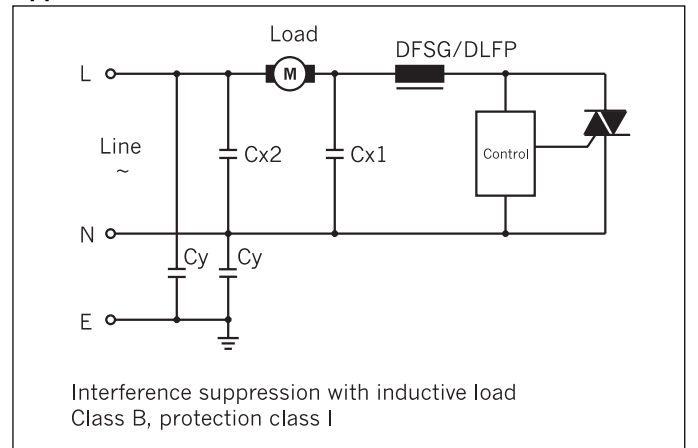
Application 2



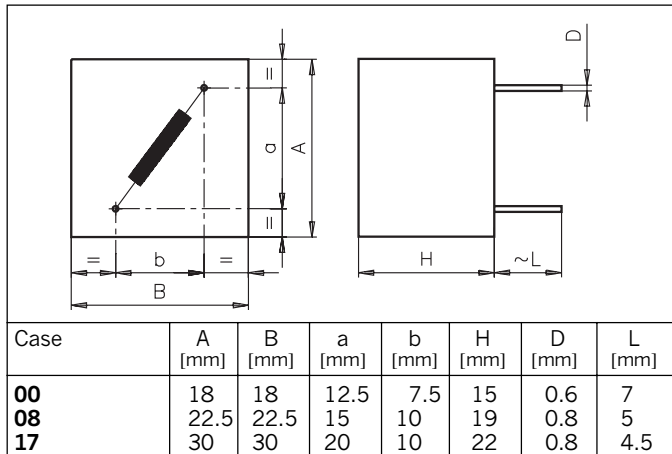
Application 3



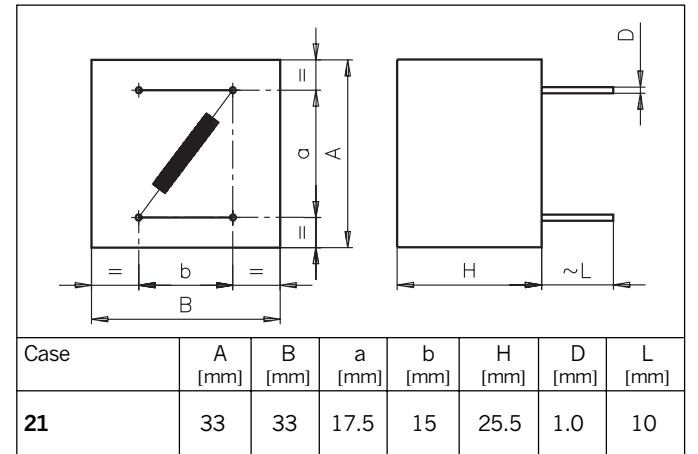
Application 4



Case 00, 08, 17



Case 21



Case 25, 47, 32

