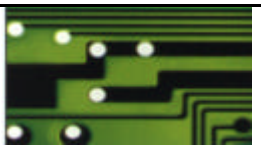
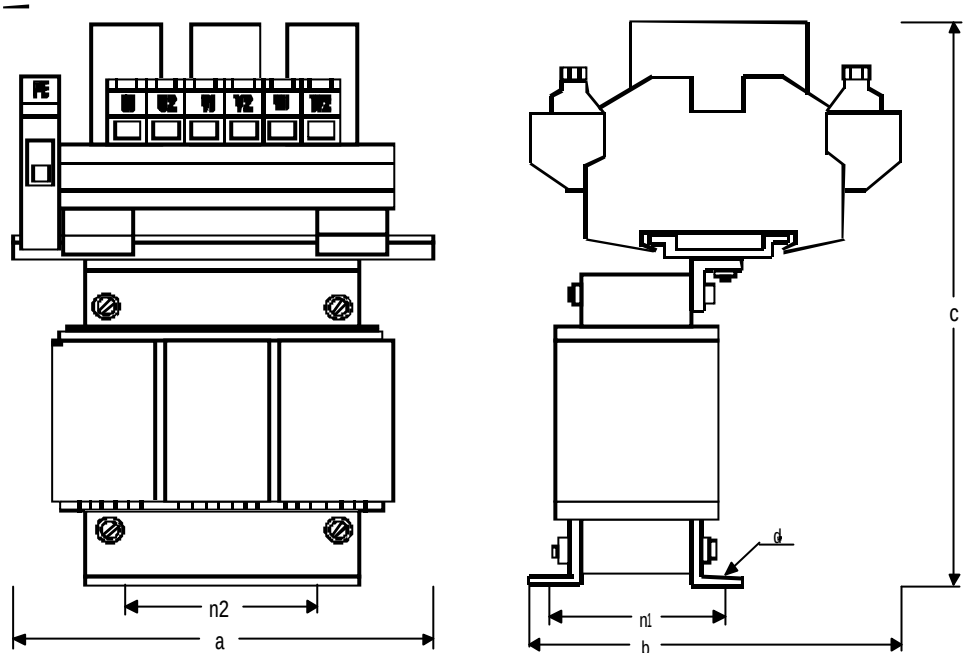


esco – Sinusoidal filter – UAF-series



Max. supply voltage: 3 x 400 V, 50/60 Hz
Valid inverter carrier frequency: fs >= 4 kHz, T 40/F
Protection class: IP00, VBG4

I_N A		a mm	b mm	C mm	n2 mm	n1 mm	d mm	Weight kg	CU-TZ kg	Terminal mm^2
2,5	UAF 910 / 2,5 / 20	100	110	155	60	48	4	1,6	0,4	4
4	UAF 913 / 4 / 13,5	125	110	180	100	45	5	2,2	0,7	4
5,5	UAF 914 / 5,5 / 9,5	125	110	180	100	55	5	3,2	0,9	4
8	UAF 917 / 8 / 7, 2	155	110	210	130	57	8	4,4	1,8	4
10	UAF 917 / 10 / 5	155	110	210	130	57	8	4,7	1,8	4
14	UAF 918 / 14 / 4,2	155	130	210	130	72	8	6,8	2,4	4
16	UAF 918 / 16 / 3	155	130	210	130	72	8	7	2,5	4

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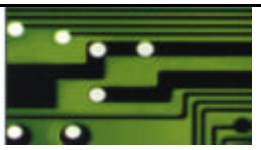
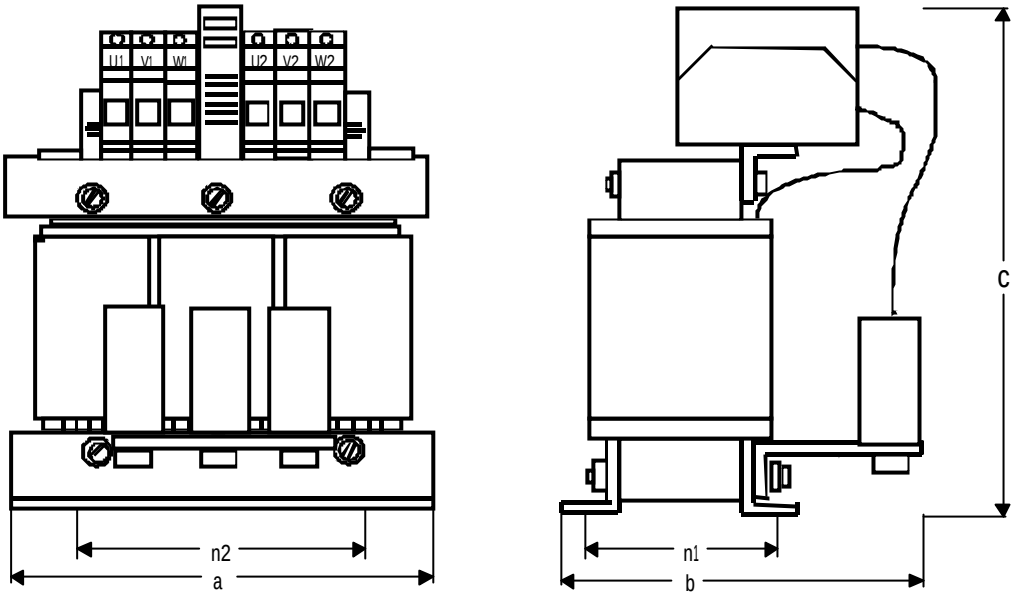


esco – Sinusoidal filter – UAF-Series



Max. supply voltage: 3 x 400 V, 50/60 Hz
Valid inverter clock frequency: fs >= 4 kHz, T 40/F
Protection class: IP00, VBG4

I_N A		a mm	b mm	C mm	n2 mm	n1 mm	d mm	Weight kg	CU-TZ kg	Terminal mm^2
18	UAF 922 / 18 / 3,6	190	140	190	170	68	8	11	3,7	10
25	UAF 925 / 25 / 2,4	210	140	210	180	71	8	13	4,8	10
34	UAF 927 / 34 / 1,9	210	150	210	180	82	8	14	5,3	10
37	UAF 942 / 37 / 1,7	240	180	295	190	106	11	22	7,3	35
45	UAF 943 / 45 / 1,5	240	190	295	190	116	11	24	8,1	35
60	UAF 944 / 60 / 1,1	240	195	295	190	121	11	26	9	35
75	UAF 957 / 75 / 0,9	300	220	360	240	134	11	46	18	50
90	UAF 958 / 90 / 0,8	300	230	360	240	146	11	55	29	70
115	UAF 968 / 115 / 0,65	360	230	410	310	126	11	60	23	70
150	UAF 969 / 150 / 0,5	360	250	420	310	141	11	75	33	95
180	UAF 970 / 180 / 0,44	360	270	440	310	156	11	85	36	150
210	UAF 977 / 210 / 0,4	420	285	500	370	182	11	120	45	150
250	UAF 977 / 250 / 0,33	420	285	500	370	182	11	120	54	150
300	UAF 978 / 300 / 0,29	420	315	510	370	212	11	150	63	240
370	UAF 984 / 370 / 0,25	480	350	560	430	240	13	250	75	240
420	UAF 984 / 420 / 0,2	480	460	620	430	240	13	270	80	240

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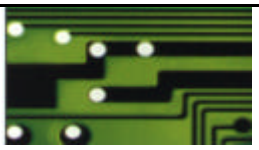

esco – Sinusoidal filter – UAF-series

Product description

These filters were built to form a sinusoidal voltage characteristic between the phases, so the inverters clocked output voltage, with a high dU/dt, gets smoothed out. Voltage peaks, caused by reflections, are prevented. The motor works, as if it is connected directly to the net.

Typical cases of application for these filters are:

✍ Motors with long supply lines or a parallel connection of several motors:
With these filters, drives can work with nearly any length of supply lines. In practice, there were motor cables for several motors with up to 700m length. These motors worked without any greater modifications.
Mind at a parallel connection that the cable capacities sum up.
Example: A machinery with four parallel connected motors, with each a supply line length of 100m, is, refering to the cable capacities, like one 400m cable.

✍ Motors with insufficient insolation:
If the used motors are not meant to work with an inverter, the isolation is not enough for the pulsed output voltage. Attention should especially be paid to old upgraded motors, which are controlled by inverter. Voltage peaks and a fast rise rate of voltage stress the insolation and reduce the motors service life.

✍ Reducing the motor noise:
Because of the magnetic construction, a motor, controlled by an inverter, can be very noisy. This can be very disturbing, especially if the motor is close to a workstation. A filter can reduce this motor noise by transfering the noise to itself, so the motor, controlled by an inverter, is as loud as a line-operated motor. Because of the fact, that the filter is mostly inside the cabinet, the noise is less disturbing. In addition, the noise can be reduced still more with the help of special constructive Stepps. This requires additional expenses and must be stated during the request/order.

✍ Usage of motors in the ex-area:
For the usage of ex-motors, you must also use an **output filter**. The maximal permitted voltage peeks and rise rate of voltage can be observed with a sinusoidal filter.

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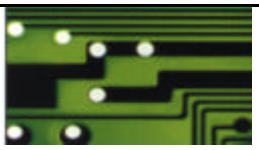
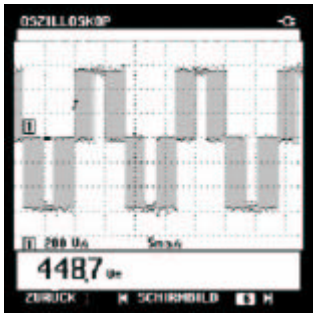


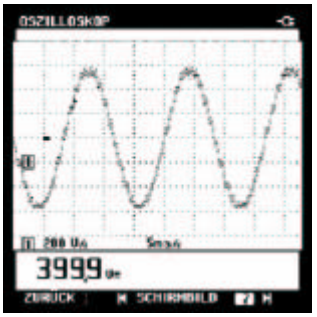
Mode of action - sinusoidal filter

We would like to inform you about the mode of action of our UAF filter-series with the help of several measurement reports.
This filter-series can convert the inverters pulsed output voltage to a sinusoidal process. With these filters, drives can work with nearly any length of supply lines. In practice, there were motor cables for several motors with up to 700m length. These motors worked without any greater modifications. Please mind during the installation the filters and cables adding fall of voltage.
The following measurement reports show the voltage characteristics between to phases:

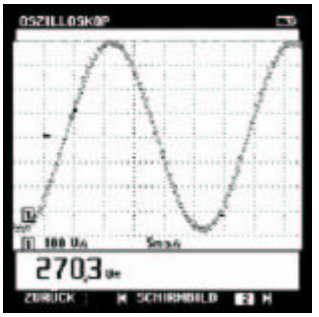
Typical voltage characteristics Without filter



Typical voltage characteristics with sinusoidal filter partial load 33 Hz



full load 50 Hz



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