

LAF 631 / 1001 / 1251 / 1601

DC power sources for submerged arc welding

The LAF series are three phase, fan-cooled DC welding power sources designed for high productivity mechanized Submerged or high productivity MIG/MAG arc welding.

They are used in combination with ESAB's A2-A6 equipment range and the A2-A6 Process Controllers (PEK or PEI).

LAF welding power sources have excellent welding characteristics throughout the entire current and voltage range, with particularly good starting and re-ignition properties. These power sources demonstrate good arc stability at both high and low arc voltages.

The welding power source can be adjusted and monitored from the front panel of the process controller (PEK or PEI), which permits easy adjustment of all welding parameters.

The welding current range can be extended by connecting two power sources in parallel for the most demanding application.

Communication

The power sources are designed to be used with the fully digital PEK controller for maximum functionality or with the PEI controller with basic functionality for less demanding applications. Communication is vital in automation applications. Therefore the power source is prepared for communication using most standard protocols like TCP/IP (LAN), Anybus, Profibus, CAN or even straight communication with a PLC. Optional communications modules might be needed depending on type of used protocol.



Applications

• Submerged arc welding

The excellent welding characteristics and the capacity of the LAF series make these power sources ideal for continuous submerged arc welding. The LAF power sources are today used by the major manufacturers of wind power components, nuclear power vessels, boilers and in the ship building industry.

• MIG/MAG welding

LAF power sources produce a stable arc at low currents and voltages. This means that they are also ideal for high productive MIG and MAG welding in automation applications as welding the root pass in heavy pipe production.

Technical data	LAF 631	LAF 1001	LAF 1251	LAF 1601
Voltage, 3 ph 50 Hz, V	400/415	400/415/500	400/415/500	400/415/500
Voltage, 3 ph 60 Hz, V	440	400/440/550	400/440/550	400/440/550
Current A 100%, 50 Hz	52	64/64/52	99/99/80	136/136/108
Current A 100% 60 Hz	52	64/64/52	99/99/80	136/136/108
Cable area mm ² , 50 Hz	4x16	4x16	3x35+25/3x35+25/3x25+16	3x70+35/3x70+35/3x50+35
60 Hz	4x16	4x16	3x35+25/3x35+25/3x25+16	3x70+35/3x70+35/3x70+35
Fuse, slow A, 50 Hz	63	63	100/100/80	160/160/125
60 Hz	63	63	100/100/80	160/160/125
Maximum load at:				
100% duty cycle A/V	630/44	800/44	1250/44	1600/44
80% duty cycle A/V	-	-	-	-
60% duty cycle A/V	800/44	1000/44	-	-
Setting range A/V				
MIG/MAG	50/17-630/44	50/17-1000/45	60/17-1250/44	-
SAW	30/21-800/44	40/22-1000/45	40/22-1250/44	40/22-1600/46
Open circuit voltage, V	54	52	51	54
Open circuit power, W	150	145	220	220
Efficiency	0.84	0.84	0.87	0.86
Power factor	0.90	0.95	0.92	0.87
Enclosure class	IP23	IP23	IP23	IP23
Dimensions LxWxH mm	670x490x930	646x552x1090	774x598x1428	774x598x1428
Weight, kg	260	330	490	585
Application class	S	S	S	S
Ordering information	0460 512 880	0460 513 880	0460 514 880	0460 515 880

Technical data	LAF 1001 M	LAF 1251 M	LAF 1601 M
Voltage, 3 ph 50 Hz, V	230/400/415/500	230/400/415/500	230/400/415/500
Voltage, 3 ph 60 Hz, V	230/400/440/550	230/400/440/550	230/400/440/550
Current A 100%, 50 Hz	111/64/64/52	171/99/99/80	235/136/136/108
60%	138/80/80/65	-	-
Current A 100% 60 Hz	111/64/64/52	171/99/99/80	235/136/136/108
60%	138/80/80/65	-	-
Cable area mm ² , 50 Hz	4x50/4x16/4x16/4x16	3x70+35/3x35+25/3x35+25/3x25+16	3x120+70/3x70+35/3x70+35/3x50+35
60 Hz	4x50/4x16/4x16/4x16	3x70+35/3x35+25/3x35+25/3x25+16	3x120+70/3x70+35/3x70+35/3x70+35
Fuse, slow A 50 Hz	125/63/63/63	160/125/125/80	200/160/160/125
Fuse, slow A 60 Hz	125/63/63/63	160/100/100/80	200/160/160/125
Ordering information	0460 513 881	0460 514 881	0460 515 881

For all other technical information, see LAF 1001, LAF1251 and LAF 1601

Ordering information

	PEK	PEI
Control cable 15 m	0460 910 881	0449 500 880
Control cable 25 m	0460 910 882	0449 500 881
Control cable 35 m	0460 910 883	0449 500 882
Control cable 50 m	0460 910 884	0449 500 883

Wheel Set LAF 631 0457 787 880

These welding power sources comply with the requirements of EN 60974-1 and IEC 974-1

The symbol S indicates that the welding power source may be used in areas with an increased electrical hazard, i.e. areas where the electrical hazard is increased due to damp and/or the proximity to earthed metal objects.



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