

ALPHA1 L



TM06 8028 46 16

Product description

The redesigned ALPHA1 L model C can be integrated in all kinds of heating applications with either variable or constant flow rate. High-efficiency ECM (Electronically Commutated Motor) pumps, such as ALPHA1 L, must not be speed-controlled by an external speed controller varying or pulsing the supply voltage.

The speed can be controlled by a low-voltage PWM (Pulse Width Modulation) signal.

Features

- Three constant curves/constant speed curves.
- Radiator heating mode.
- Underfloor heating mode.
- PWM A profile. The PWM signal is a method for generating an analog signal using a digital source.
- Low EEI (Energy Efficiency Index).
- Deblocking screw.
- Maintenance-free.
- Low noise level.
- Very simple installation.

Technical data

Liquid temperature

2-95 °C and 0-55 °C ambient temperature

To avoid condensation in the control box and stator, the liquid temperature must always be higher than the ambient temperature.

System pressure

PN 10: Maximum 1.0 MPa (10 bar).

Inlet pressure

To avoid cavitation noise and damage to the pump, the following minimum pressures are required at the pump inlet port.

Liquid temperature	75 °C	95 °C
Pressure	0.005 MPa 0.05 bar	0.05 MPa 0.5 bar

Electrical data

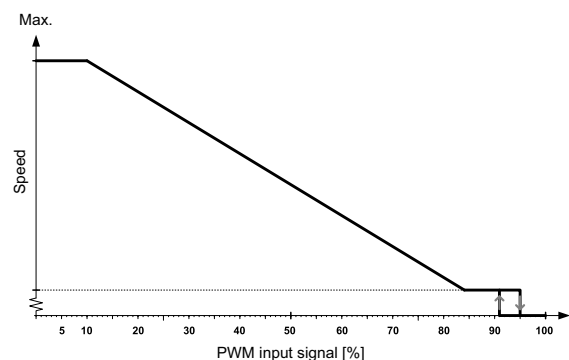
Supply voltage	1 x 230 V - 15 %/+ 10 %, 50/60 Hz, PE
Motor protection	The pump requires no external motor protection.
Enclosure class	IPX4D
Relative air humidity	Maximum 95 %
Insulation class	F
Specific EEI	≤ 0.20*

* ALPHA1 L XX-65 ≤ 0.23

PWM input signal profile A (heating)

At high PWM signal percentages (duty cycles), a hysteresis prevents the circulator from starting and stopping if the input signal fluctuates around the shifting point. At low PWM signal percentages, the circulator speed is high for safety reasons. In case of a cable breakage in a gas boiler system, the circulators will continue to run at maximum speed to transfer heat from the primary heat exchanger. This is also suitable for heat circulators to ensure that the circulators transfer heat in case of a cable breakage.

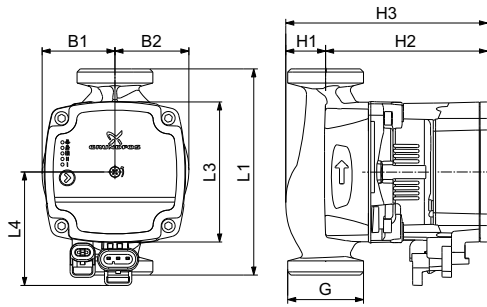
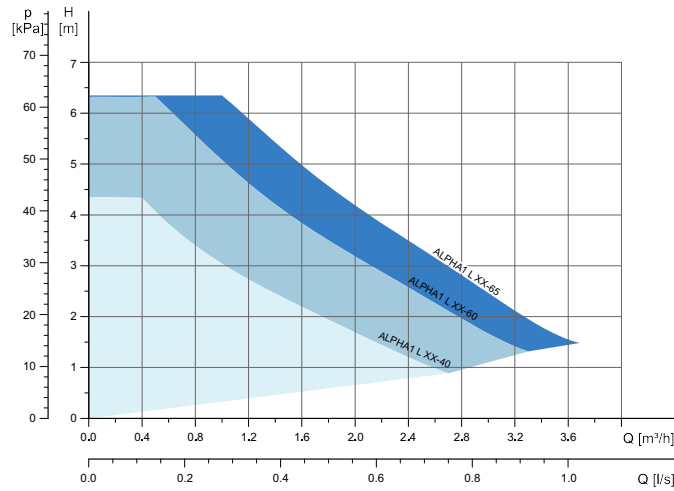
If no PWM signal is available, you can set ALPHA1 L to proportional-pressure control, constant-pressure control or constant speed, by the controller.



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Fig. 1 PWM input profile A (heating)

ALPHA1 L Performance range



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Type key

Example	ALPHA1 L 25 - 40 180
Pump range	ALPHA1 L 25 - 40
Nominal diameter (DN) of inlet and outlet ports [mm]	180
Maximum head [dm]	40
[]: Cast-iron pump housing	
A: Pump housing with air separator	
N: Stainless-steel pump housing	
Port-to-port length [mm]	180

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Pump type	Dimensions [mm]									Weights [kg]		Ship. vol. [dm ³]
	L1	L3	L4	B1	B2	H1	H2	H3	G	Net	Gross	
ALPHA1 L 15-40	130	88.3	71.6	45.9	46.6	25.1	102.1	127.2	G 1	1.8	2.0	3.83
ALPHA1 L 20-40	130	88.3	71.6	45.9	46.6	25.1	102.1	127.2	G 1 1/4	1.8	2.0	3.83
ALPHA1 L 20-40 N	150	90	71.6	48.6	48.8	26.8	102.1	128.9	G 1 1/4	2.1	2.3	3.83
ALPHA1 L 25-40	130	88.3	71.6	45.9	46.6	25.1	102.1	127.2	G 1 1/2	1.9	2.1	3.83
ALPHA1 L 25-40	180	88.3	71.6	46.3	46.4	25.3	102.1	127.4	G 1 1/2	1.9	2.1	3.83
ALPHA 1 L 25-40 A	180	88.3	71.6	31.7	64.7	49.7	112	161.7	G 1 1/2	2.8	3.0	3.83
ALPHA1 L 25-40 N	180	90	71.6	48.6	48.8	26.8	102.1	128.9	G 1 1/2	2.2	2.4	3.83
ALPHA1 L 32-40	180	88.3	71.6	46.3	47.7	26.3	102.1	128.4	G 2	2.1	2.3	3.83
ALPHA1 L 15-60	130	88.3	71.6	45.9	46.6	25.1	102.1	127.2	G 1	1.8	2.0	3.83
ALPHA1 L 20-60	130	88.3	71.6	45.9	46.6	25.1	102.1	127.2	G 1 1/4	1.8	2.0	3.83
ALPHA1 L 20-60 N	150	90	71.6	48.6	48.8	26.8	102.1	128.9	G 1 1/4	2.1	2.3	3.83
ALPHA1 L 25-60	130	88.3	71.6	45.9	46.6	25.1	102.1	127.2	G 1 1/2	1.9	2.1	3.83
ALPHA1 L 25-60	180	88.3	71.6	46.3	46.4	25.3	102.1	127.4	G 1 1/2	1.9	2.1	3.83
ALPHA 1 L 25-60 A	180	88.3	71.6	31.7	64.7	49.7	112	161.7	G 1 1/2	2.8	3.0	3.83
ALPHA1 L 25-60 N	180	90	71.6	48.6	48.8	26.8	102.1	128.9	G 1 1/2	2.2	2.4	3.83
ALPHA1 L 32-60	180	88.3	71.6	46.3	47.7	26.3	102.1	128.4	G 2	2.1	2.3	3.83
ALPHA1 L 15-65	130	88.3	71.6	45.9	46.6	25.1	102.1	127.2	G 1	1.8	2.0	3.83



For further product documentation and product numbers, see below.
<http://net.grundfos.com/qr/i/99169580>

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 ECM: 1209451

Subject to alterations.