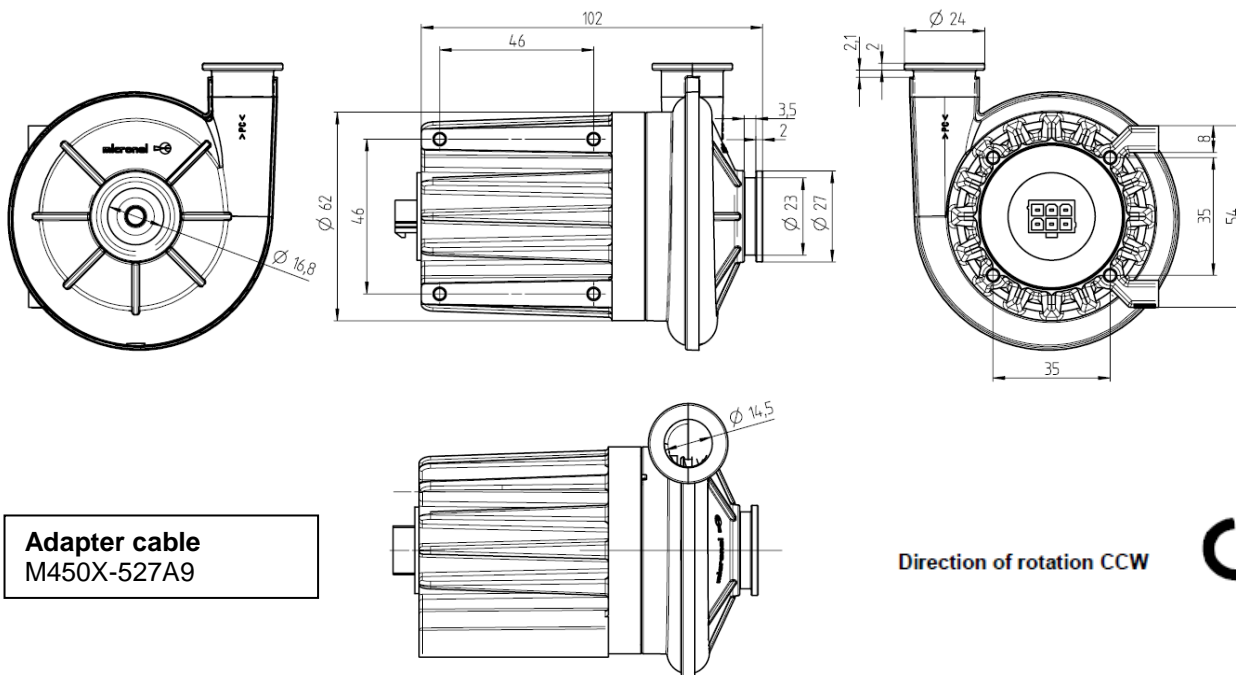
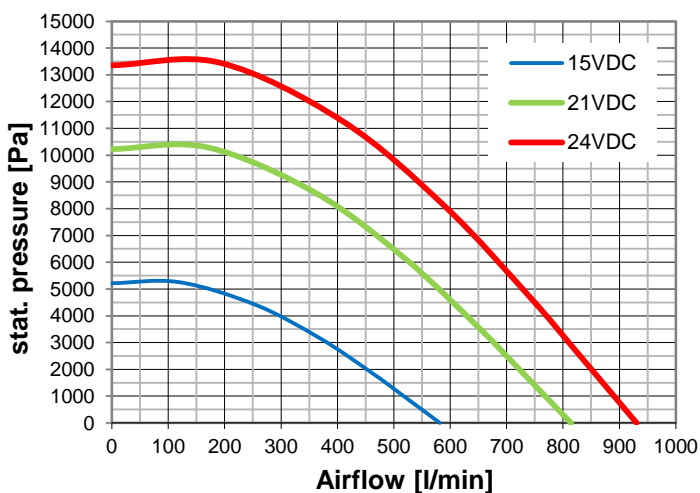
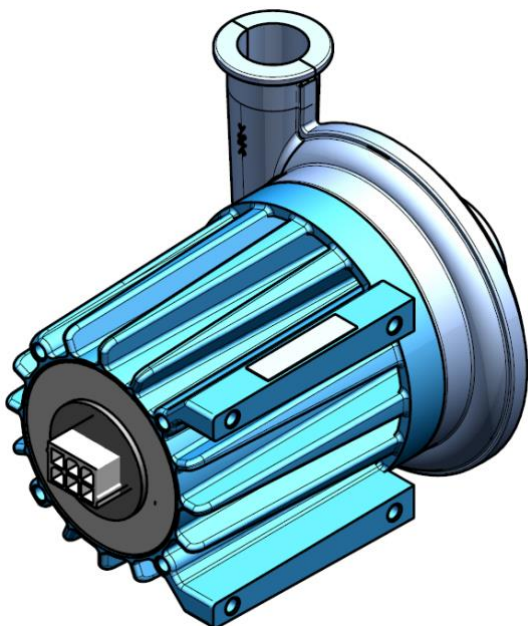


Baureihen / Series

U85HL-024KH-4

**Miniatur Radial Gebläse mit integrierter Elektronik**  
**Miniature Radial Blower with integrated electronic**



## Technische Daten

### Allgemeine Beschreibung

Kompakter Lüfter mit effizientem Motor. Eigenschaften: Gehäuse: PC, Flügelrad: PA. Bürstenloser und sensorloser 3-Phasen Motor mit integrierter Treiber Elektronik. Anschluss über MOLEX-Stecker.

## Technical data

### General description

Compact blower with an efficient motor. Features: housing: PC, impeller: PA. Brushless and sensorless 3-Phase motor with integrated driver electronic. Connection via MOLEX-connector.

U85HL-024KH-4		
$U_N$	VDC	24
$U$	VDC	15.0-24.0
$I_N$ freeblowing	mA	8'100
$I_N$ static	mA	2'200
$P_N$ typ. freeblowing	W	194
$n$ freeblowing	$\text{min}^{-1}$	40'500
$n$ static	$\text{min}^{-1}$	47'100
$V$ freeblowing	$\text{l/min}$	930
$p$ static	Pa	13'350
$T$	$^{\circ}\text{C}$	0...+45
$m$	gr	545
Housing material		PC
Impeller material		PA6
Ball Bearing		•
Tacho		•
Speed control SP		•
NTC		NTCG164KF104F TDK

Data's at Density: 1.2kg/m<sup>3</sup>

## Operating Instruction and Warning

### U85HL-024KH-4

#### Electrical connection

Connector type: MOLEX 46015-0603

PIN	Description	3	6
1	GND	2	5
2	Frequency	1	4
3	NTC		
4	Vcc + Power		
5	Set Speed		
6	NTC		



#### Blower Features

- Integrated speed control input
- FG frequency signal output
- ON / OFF control by logic signal SP (set speed)
- Locked rotor protection (1min)
- ESD Protection 16 kV
- no polarity protection

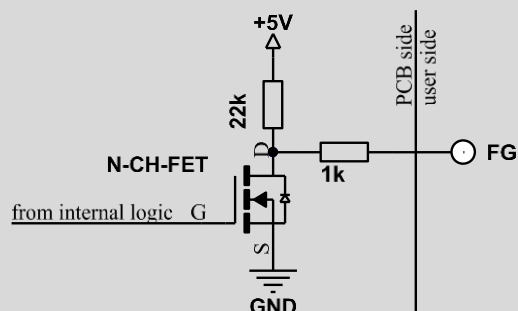
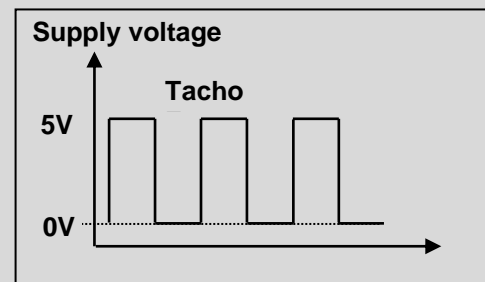
#### FG Frequency signal (yellow wire)

Speed calculation

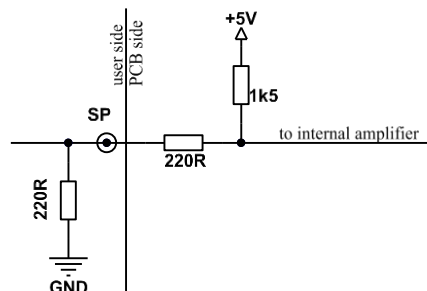
$f \cdot 20 = \text{rpm (3 pulse / rotation)}$

$f$  = FG Frequency Generator [Hz]

rpm = Rotation speed [min<sup>-1</sup>]



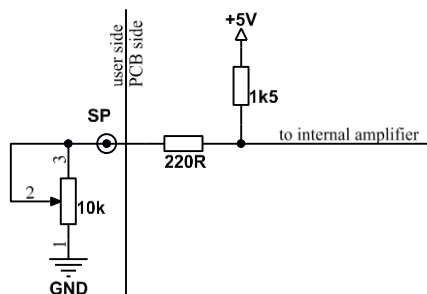
## SP Set speed (green wire)



Input voltage	0...0.2VDC	→	Stop
	0.2...1.5VDC	→	Not defined, if blower RUN or STOP
	2.0 VDC	→	min. Start voltage
	1.5-4.0 VDC	→	Fan is running compare to VDC
	4.0-5.0 VDC	→	Fan is running with 100% speed

Negative voltage or >5VDC not allowed

>> or >>



Input resistor Connect between SP (green) and GND (black)

SP not connected Blower operates at 100% Speed

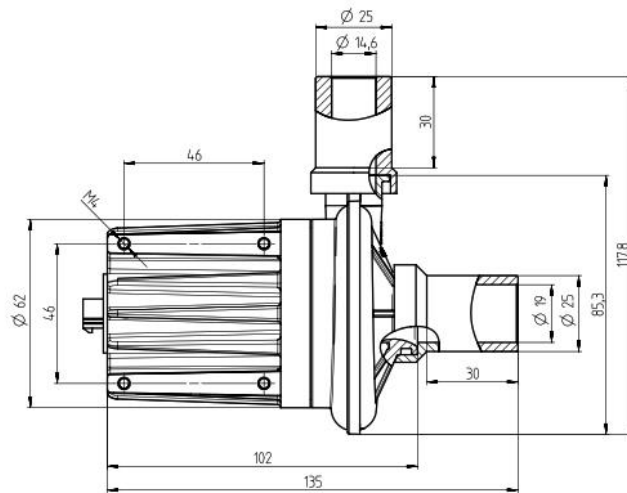
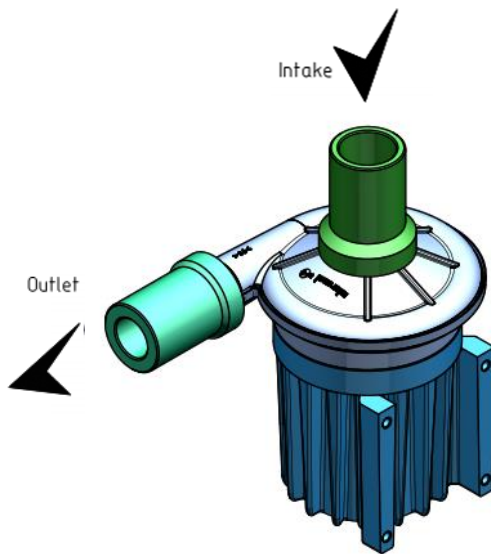
### Blower limits

- Max. allowed temperature on heat sink surface:	65 °C
- Maximum speed	45'000 1/min
- Orifice diameter at outlet / inlet	diameter > 4mm (Q > 80 l/min)

### Power supply requirement

Ripple voltage < 5%,  
Continuous operation: 10A\*

\* The start-up current can be three times higher. Pay attention that the power supply supports this short (25μs) current peak.



Product no. incl. option / Produkt Nr. inkl. Option	Intake / Einlass	Outlet / Auslass	Description / Beschreibung
U85HL-024KH-4			Without intake / without outlet Ohne Einlass / ohne Auslass
U85HL-024KH-41	•		With intake / without outlet Mit Einlass / ohne Auslass
U85HL-024KH-42		•	Without intake / with outlet Ohne Einlass / mit Auslass
U85HL-024KH-43*	•	•	With intake / with outlet Mit Einlass / mit Auslass

\* The drawings show intake and outlet connections. Both options are independent of each other.  
Die Zeichnungen stellen beide Anschlussmöglichkeiten (Ein-und Auslass) dar.

#### Info

**Specifications are subject to change without notice.  
Specifications on this Datasheet are for reference.**

Version: 31.01.2018 / DH

Doc: U85HL-024KH-4 with integrated electronics.doc