

3: 19" Ventilations



3.1 Fan Modules 19"

- The fan modules are designed for vertical ventilation of 19" cabinets.
- Modules for depths of 160 mm and 220 mm have 3 fans
- These are arranged in an optimum configuration to ensure cooling of the PCBs over the entire width of the rack
- Fan modules with 19" front panels are designed for use in 19" racks and cabinets
- They can be run in and out on supporting rails
- The modules have a 3-pole appliance inlet for connection to the mains

3.1.1 Fan Modules Vertical 19"

- 230V/50Hz (115 V on request)
- **Scope of delivery:**
 - 1 fan module 19"
- Assembly material for mounting fan module in cabinet see below

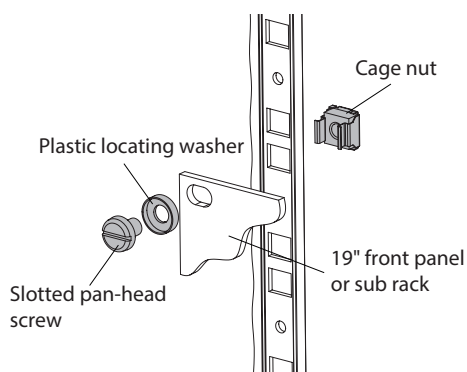
3.1.1.1 Assembled, Ready for Connection

Height	Fan Type (Details see 4.2.5.2)	Card Depth		Part-No.
		mm	inch	
1 U	69-430-20	160	6.29	27-100-02
		220	8.66	27-101-02

3.1.1.2 Assembly Material

- For mounting fan modules in cabinets

Description	Part-No.
Slotted pan-head screw M6 x 8	5561-08
Slotted pan-head screw M6 x 12	5561-12
Plastic locating washer	61-007
Cage nut M6	5625-06



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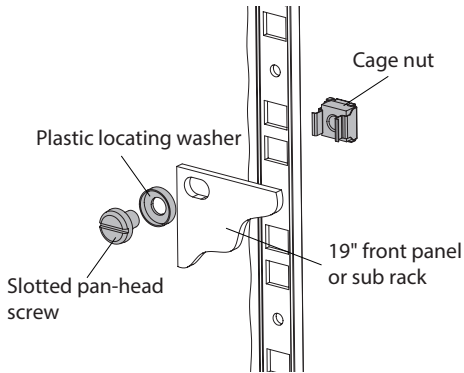
3.1.2 Fan Modules Horizontal 19"

- 230 V/50 Hz (115 V on request)
- **Scope of delivery:**
 - 1 fan module
- Assembly material for mounting fan module in cabinet see below



3.1.2.1 Assembled Ready for Connection

Height	Fan Type (Details see 4.2.5.2)	Card Depth		Part-No.
		mm	inch	
2 U	1925-79	160	6.29	27-250-02
		220	8.66	27-251-02

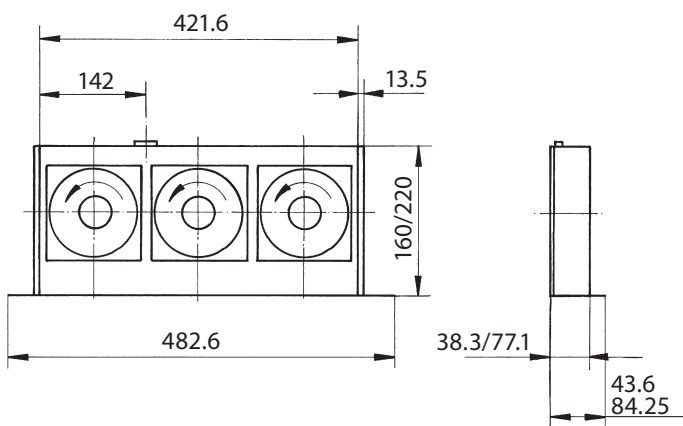


3.1.2.2 Assembly Material

- For mounting fan modules in cabinets

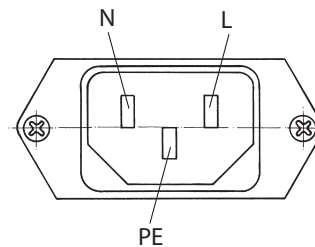
Description	Part-No.
Slotted pan-head screw M6 x 8	5561-08
Slotted pan-head screw M6 x 12	5561-12
Plastic locating washer	61-007
Cage nut M6	5625-06

3.1.3 Line Drawing and Technical Information



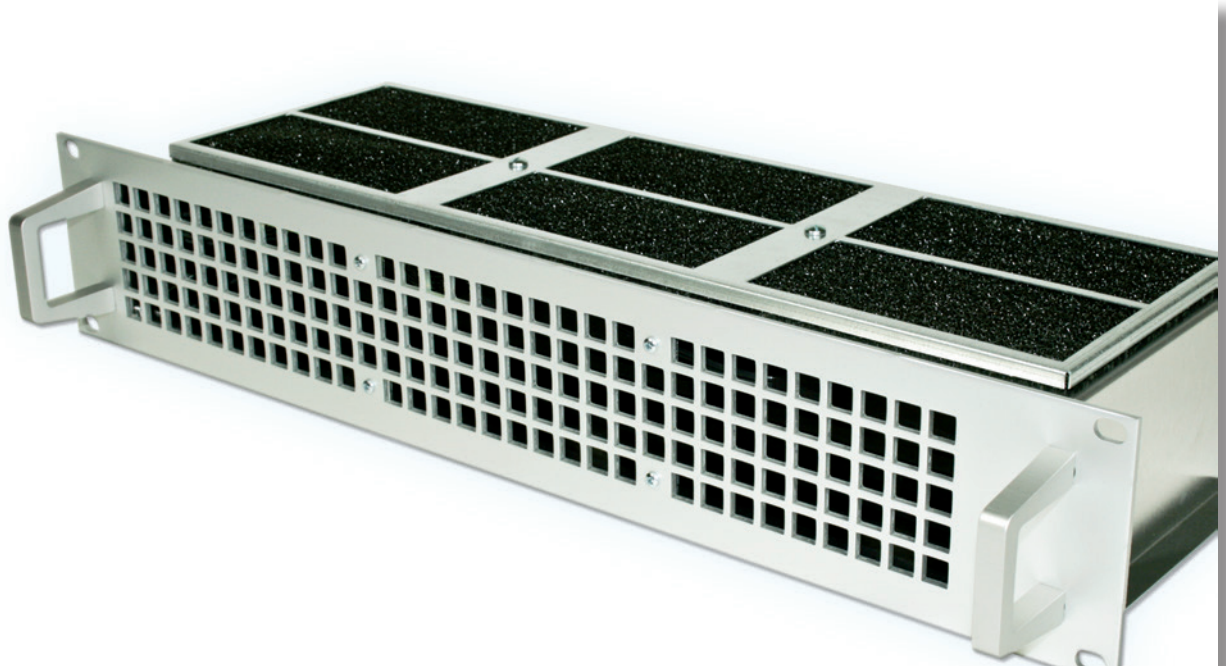
Power Supply

AMP connector, "M" series, 14 pole (pin)
Standard in fan modules 84 HP



- N -blue
- L -brown
- PE -green / yellow

1 AMP connector series M can be assembled additionally



3.2 Accessories for Ventilation

3.2.1 Handles for Fan Modules 19"

- **Scope of delivery:**
 - 1 handle
- Per Handle 2 screws are needed, see below



3.2.1 Handles for Fan Modules 19"

- **Scope of delivery:**
 - 1 handle

For Height	Description	Part-No.
1 U	U-handle diecast zinc	60-541
2 U	U-handle aluminium	60-527

Assembly Material

Description	Part-No.
Cross recessed cylinderhead earthing screw M4 x 10	61-260
Torx roundhead earthing screw M4 x 10, size T20	5443-01
Cross recessed countersunk screw M4 x 10	5342-10
Torx countersunk screw M4 x 10, size T20	5470-26

3.2.2 Front Filter Set

- The front filter is fastened to the front panel of the fan body or the fan frontpanel 2 U / 84 HP using two captive screws
- The filter mat can be re-used after washing in water with a temperature of up to approx. 40°C
- Replacement filter mats can be ordered as spare parts



3.2.2 Front Filter Set

- **Scope of delivery:**
 - 1 filter cradle, aluminium, clear anodised
 - 1 filter mat, polyester
 - 1 filter mat support, steel galvanised
 - 1 set of assembly material

Description	Part-No.
Front filter set for 19" fan module	27-281

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3.2.3 Fans



3.2.3.1 Fans 12V DC

- Brushless
- Sealed ball bearings
- Polarity and electronic locked rotor protection (autorestart)
- Air exhaust in over struts
- (can be mounted directly on a perforated front panel)
- Connector 2.8 x 0.5 (except fan with speed sensor)
- Fan case and wheel plastic UL94 V-0
- Operating temperature -20 °C to +70 °C
- CE, UL, CSA, VDE standard
- Life expectancy L₁₀ = 70 000 hours at 40 °C
- Special configuration with speed sensor

VDC	Voltage range VDC	Power consumption W**	Current consumption mA**	Rotational speed min ⁻¹	Noise dB (A)**	max. stat. pressure mm H ₂ O	Flow rate m ³ /h	Dimensions						Part-No.
								A		B		C		
								mm	inch	mm	inch	mm	inch	
12	6.0-13.8	6.80	570	2400	39	5.0	153	119.0	4.68	105.0	4.13	25.0	0.98	69-430-26
12	6.0-13.8	3.80	315	3200	41	4.8	93	92.0	3.62	82.5	3.24	25.0	0.98	69-430-32*

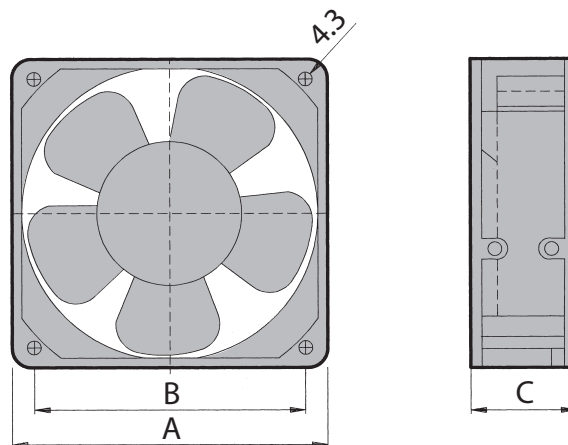
* with speed sensor
** with free exhaust

3.2.3.2 Fans 230V/115V AC

- Split-pole motor
- Sealed ball bearings
- Impedance protection resp. integrated thermal switch
- Connector 2.8 x 0.5
- Air exhaust in over struts (can be mounted directly on a perforated front panel)
- Fan case: aluminium
- Fan wheel: plastic UL94 V-0
- Operating temperature -40 °C to +70 °C
- CE, UL, CSA, VDE standard
- Life expectancy L₁₀ = 50 000 hours at 40 °C

VAC	Freq. Hz	Power consumption W**	Current consumption mA**	Rotational speed min ⁻¹	Noise dB (A)**	max. stat. pressure mm H ₂ O	Flow rate m ³ /h	Dimensions						Part-No.
								A		B		C		
								mm	inch	mm	inch	mm	inch	
230	50/60	14.0/11.0	100/90	2300/2700	34/38	4.25/4.25	108/120	119.0	4.68	105.0	4.13	25.0	0.98	69-430-20
230	50/60	15.0/14.0	120/100	2600/2900	37/41	9.0/7.3	162/192	119.0	4.68	105.0	4.13	38.0	1.51	1925-79

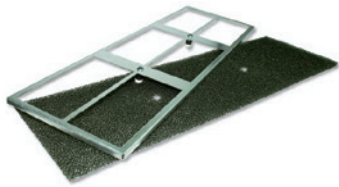
** with free exhaust



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3.2.4 Filter Set on Pressure Side of Fan Body

- The filter set is fastened to the pressure side of the fan body by means of two quick-release fasteners
- The filter mat can be regenerated by washing in water at approx. 40°C
- The filter set can only be used with 2 U / 19" fan modules
- Replacement filter mat can be ordered as spare part (packet with 10 filter mats)



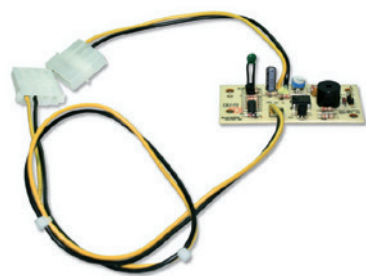
3.2.4 Filter Set on Pressure Side of Fan Body

- **Scope of delivery:**
 - 1 filter catch, steel
 - 1 filter mat, polyester
 - 2 fastening elements

Description	Part-No.
Filter for fan module 19" / 2 U	27-280

3.2.5 Fan Speed Control

- Temperature regulator with acoustic alarm signal
- Simple conversion to external optical signal
- Range of regulation
 - fan regulating range: min. speed up to 34 °C
max. speed at 48 °C
 - Alarm regulating range: adjustable between 45 °C and 54 °C
- Voltage 12 V/DC, voltage range 10-14 VDC
- Temperature regulator current consumption 50 mA
- Max. current consumption 0,6 A
- Operating temperature 0 °C to 65 °C
- Storage temperature -20 °C to +80 °C



3.2.5 Fan Speed Control

Description	Part-No.
Fan speed control (incl. wiring)	7731-02

