



User Manual

HOME



NOCTUA NV-SPH1 Powered fan hub set with NV-PS1 and NV-FH2

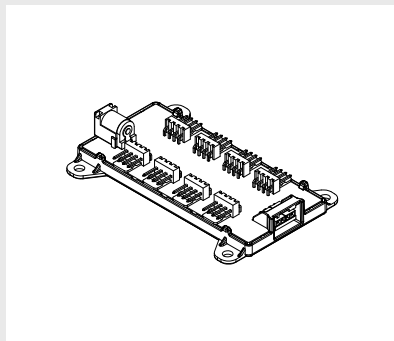
NOCTUA NV-SPH1

Powered fan hub set with NV-PS1 and NV-FH2

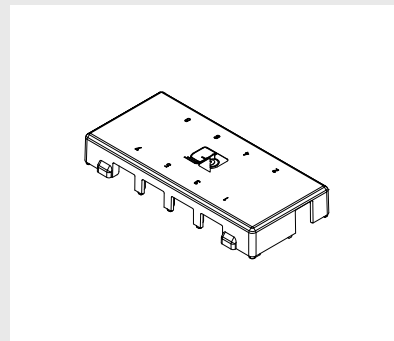
Combining the NV-FH2 8 channel PWM fan hub with the NV-PS1 230/115V 24W power supply, the NV-SPH1 powered hub set is the ideal solution for powering up to eight 12V fans off the mains for home, office or multi-purpose ventilation applications.

Both the NV-FH2 and the NV-PS1 carry CE, UKCA and UL certifications, are fully compliant with all applicable safety standards and come with Noctua's 6-year manufacturer's warranty.

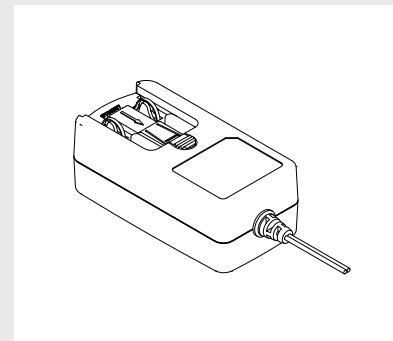
Included parts



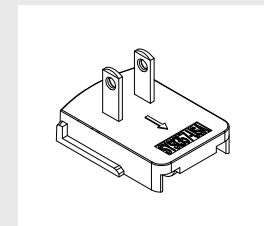
NV-FH2
Fan hub



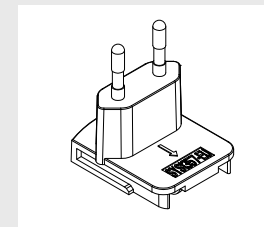
NV-FHC2
Top cover



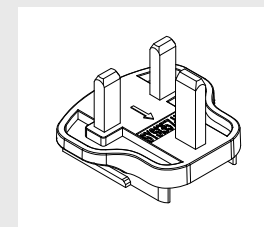
NV-PS1
power supply



US socket adaptor
(Type A)



EU socket adaptor
(Type C)



UK socket adaptor
(Type G)

Specifications

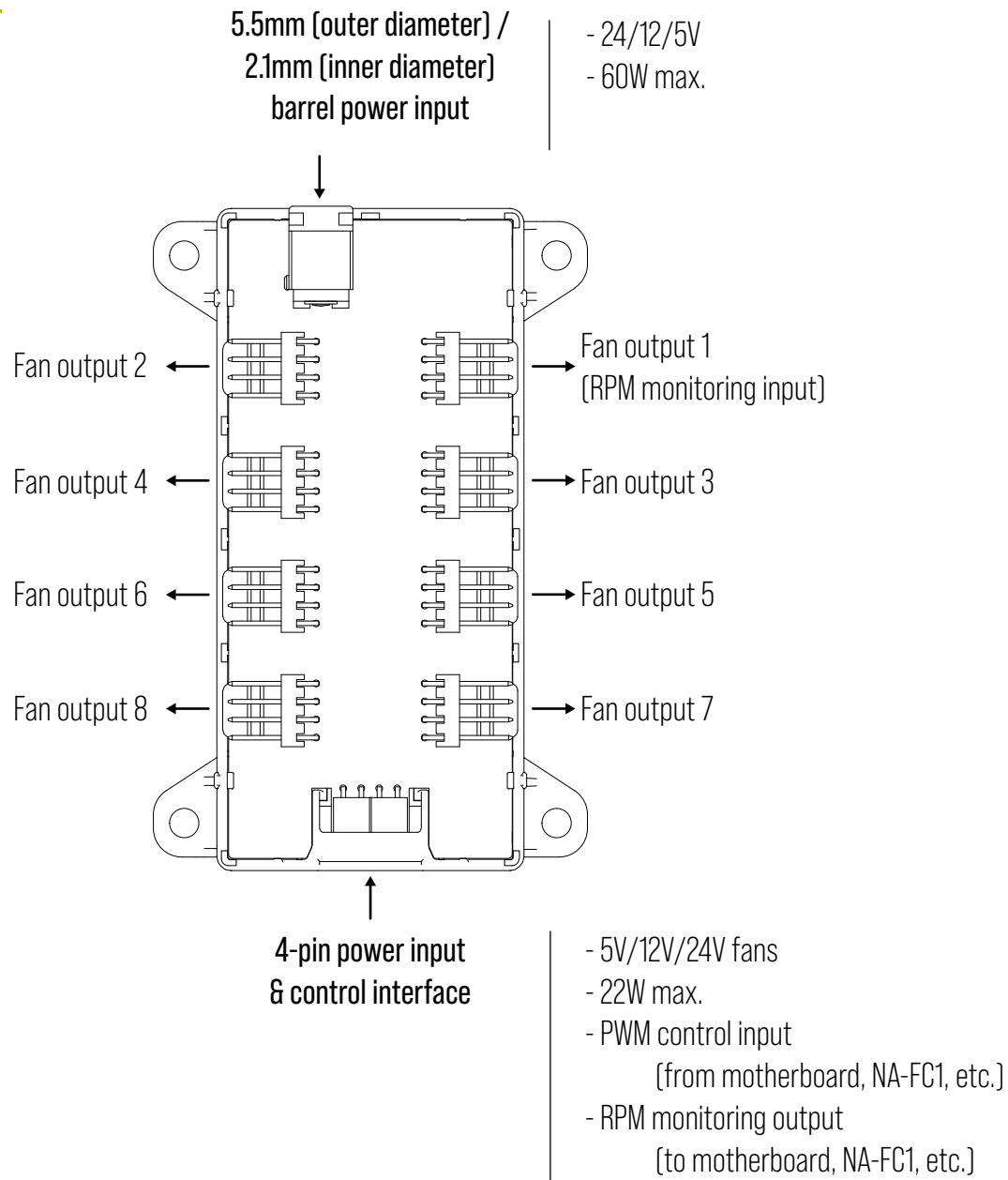
NV-FH2 SPECIFICATIONS

Output connectors	8x 4-pin PWM	Flammability class	UL-94 V-0
Input connectors	1x 5.5mm (outer diameter) / 2.1mm (inner diameter) barrel connector, 1x 4-pin PWM	Safety standards	EN 62368-1, EN 55035, EN 55032, UL-62368
Max. power via barrel connector input	60 W	Certifications	CE, UKCA, UL
Max. power via 4-pin PWM input	22 W	Size	93x62x12.5mm (without cover) / 93x62x19mm (with cover)
Operating voltage	5-24 V	Weight	47 g
Operating temperature	-40°C to +60°C	Fan compatibility	All Noctua 24V, 12V, and 5V fans, many third party fans
		Warranty	6 years

NV-PS1 SPECIFICATIONS

Input voltage	90~264 V AC	EMC standards	EN 55032 Class B, FCC Part 15 Subpart B Class B
Input frequency	47~63 Hz	Input connectors (included)	type C (CEE 7/16, for Europe, Russia, Brazil, South Africa, etc.), type A (NEMA 1-15, for USA, Canada, Mexico, Japan, etc.) and type G (BS 1363, for UK, Ireland, Singapore, etc.)
Standby power consumption	0.075 W	Output connector	5.5mm (outer diameter) / 2.1mm (inner diameter) barrel with NA-AC10 4-pin PWM adaptor cable
Protection	Over voltage, over current, short-circuitsB	Cable length	1.5 m
Protection class	II	Warranty	6 years
Operating temperature	0~40 °C		
Operating humidity	8~90 %		
Safety standards	EN 60950-1:2006+A11+A1+A12+A2, EN 62368-1, IEC 62368-1:2014, UL 60950-1 (2nd Edition), CAN/CSA C22.2 No. 60950-1-07 (2nd Edition)		

Interfaces



Caution!

When powering the NV-FH2 via the 4-pin input from a PC motherboard, please check your motherboard manual for the maximum current of the fan header and make sure not to exceed it.

Resettable fuses

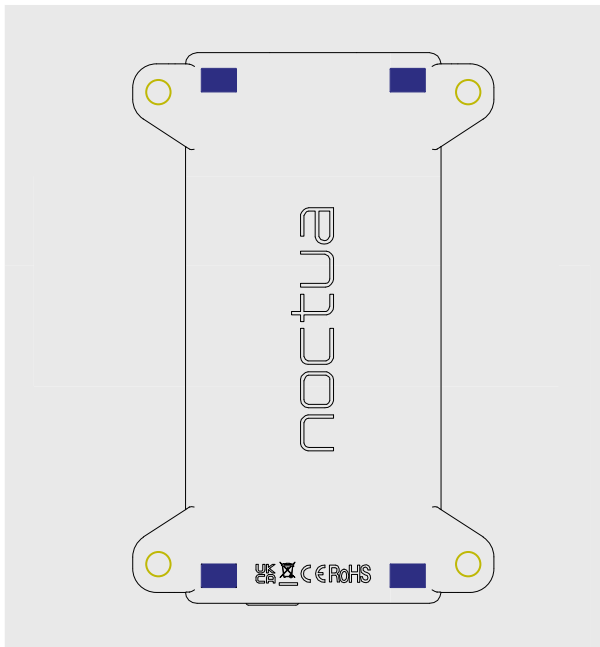
For maximum safety, the NV-FH2 has auto-resetting fuses on the 4-pin input (1.85A) and each individual 4-pin output (0.75A) so that it can automatically shut down in case of overcurrent or short-circuits on one of the connected devices or cables. If one of the fuses has blown, simply disconnect the NV-FH2 from all power sources for 1 minute to reset it.

Make sure that current ratings and maximum operating temperature are within the specified limits before reconnecting.

Mounting

The NV-FH2 features integrated neodymium magnets that make it stick to any magnetic surface such as steel PC case panels. For mounting to non-magnetic surfaces, the NV-FH2's four 4.1mm diameter screw holes (80x52.5mm hole pattern) that make screw-mounting or fixing with cable ties a breeze.

Caution: Do not place directly on hard disk drives, keep at least 5cm distance.



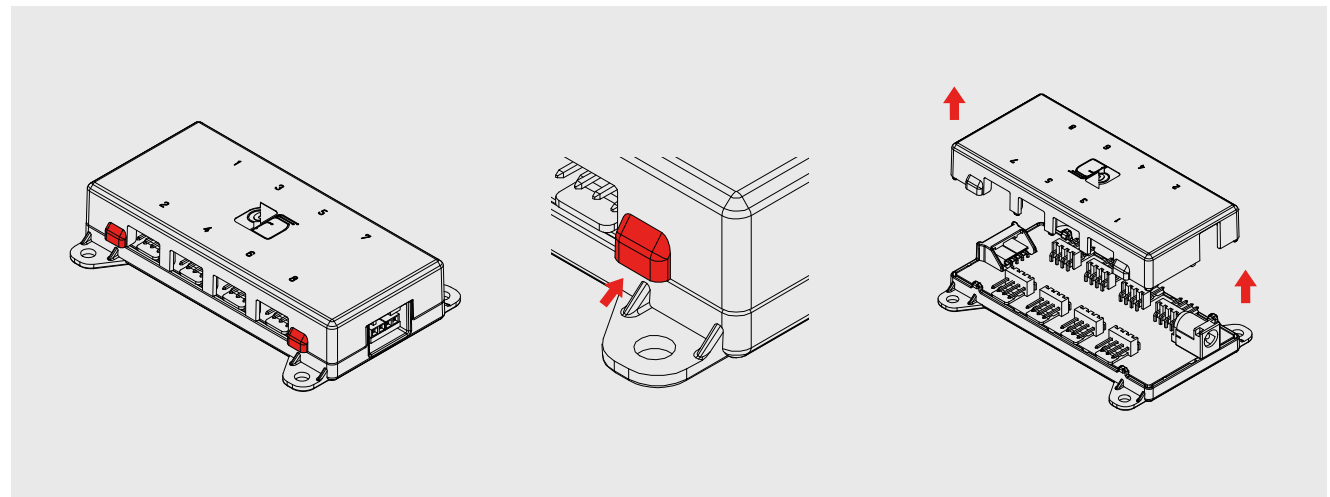
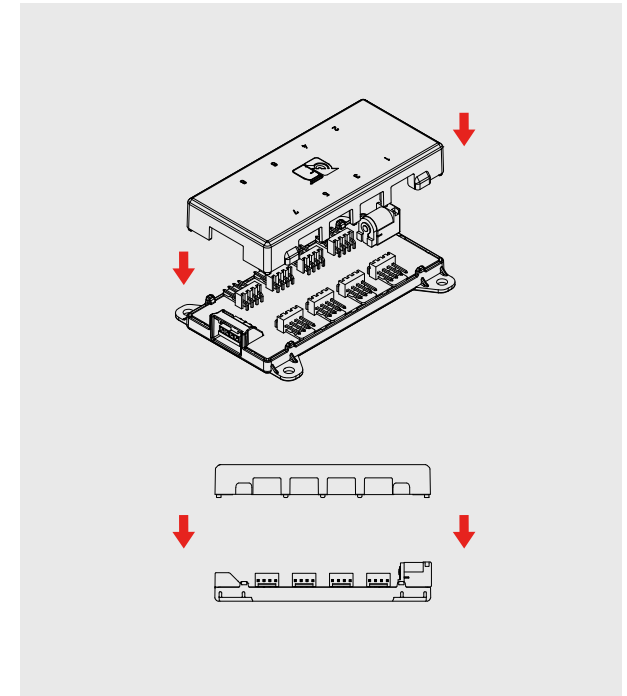
■ Screw mounting holes ■ Magnets

Installing the top cover

The NV-FH2 features a removable top cover that can be put on the hub for applications where the status LEDs should be hidden or where the PCB should be protected from dust, touch or mechanical impact.

To install, simply place the cover onto the fan hub so that the cut-outs align with the connectors. Then, press down firmly until all four corners click into place.

If you wish to remove the cover, place one finger beneath one of the clip-in ledges located in each corner of the cover. Pull upwards, until the cover releases from the clip. Repeat for each of the four ledges, until the cover is fully loose. Then pull the cover off.

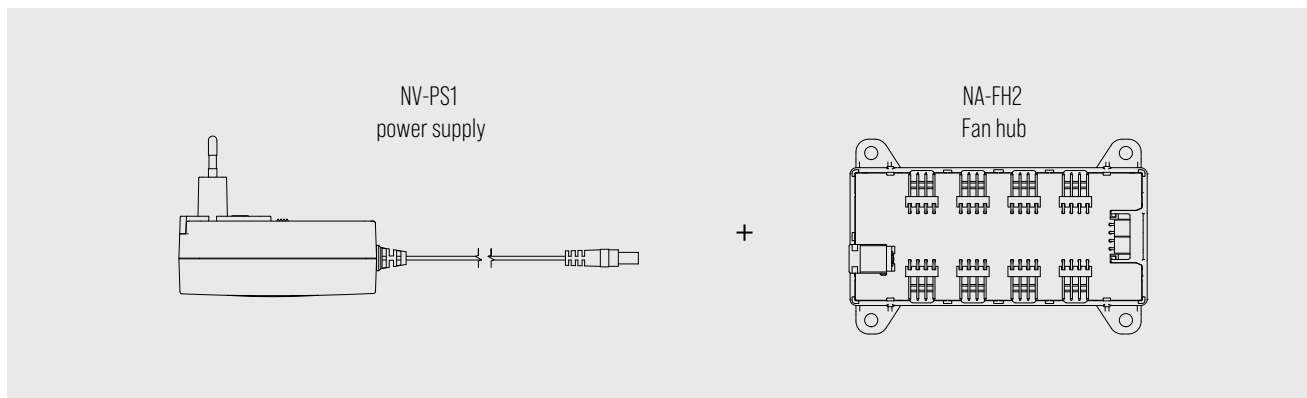
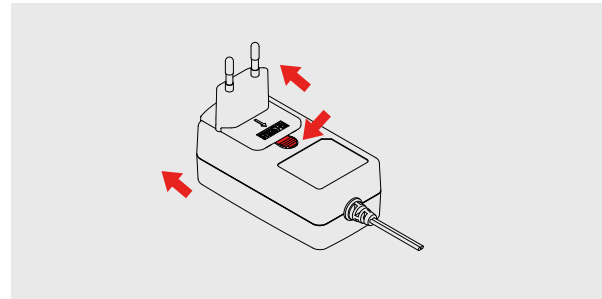
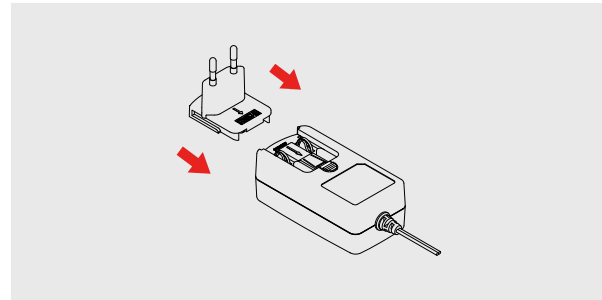


Powering with the NV-PS1 power supply

The NV-PS1 includes modular connectors for type C (CEE 7/16, for Europe, Russia, Brazil, South Africa, etc.), type A (NEMA 1-15, for USA, Canada, Mexico, Japan, etc.) and type G (BS 1363, for UK, Ireland, Singapore, etc.) plugs.

To assemble the power supply, simply slide the chosen socket adaptor onto the main NV-PS1 device until it clicks into place. To remove or switch the socket adaptor to a different socket type, hold down the release button and slide it back up, as shown.

The NV-FH2 can be powered off the mains using the optional NV-PS1 power supply (available separately) that makes it super easy to run fans off the mains in just about any environment. The NV-PS1 supports both 230V and 115V and comes with modular plugs (EU/UK/US type).

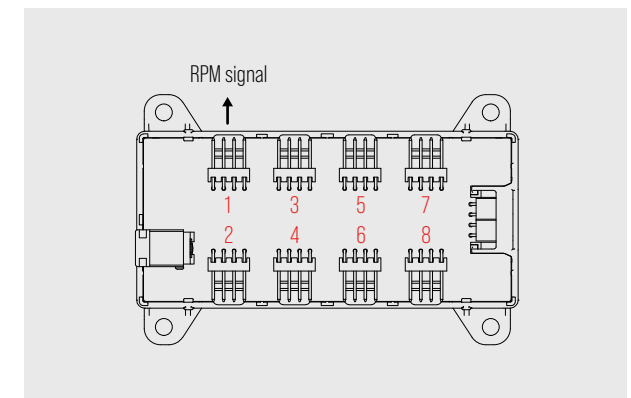


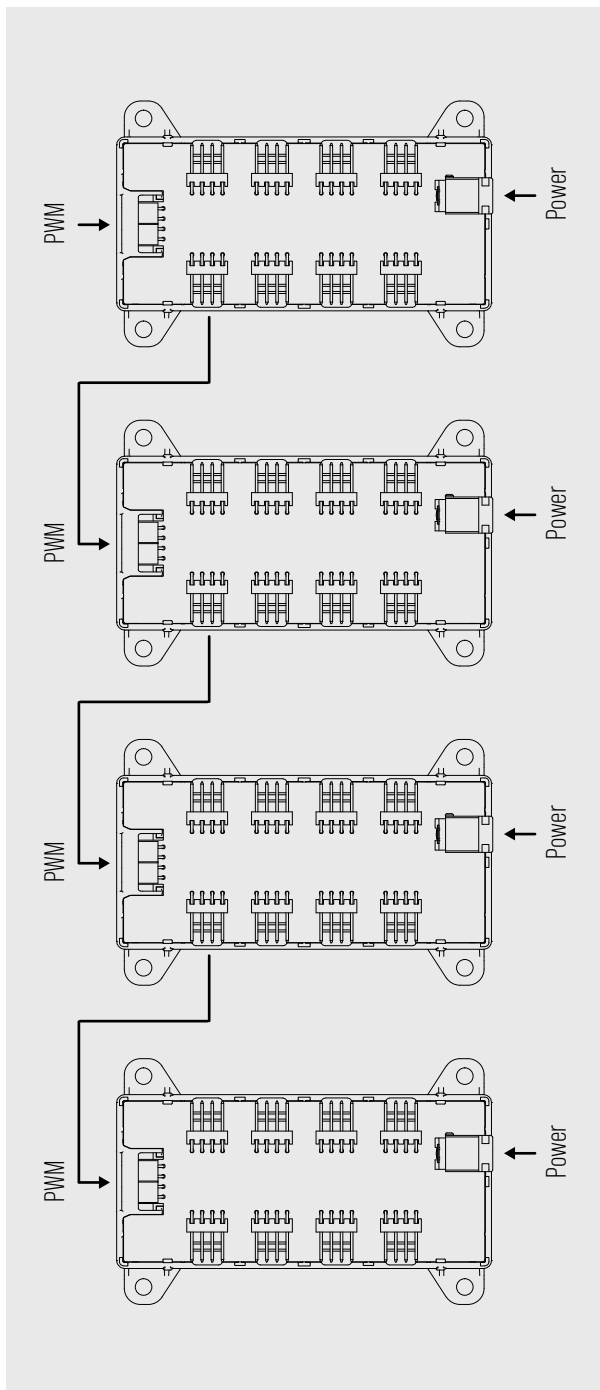
Ideal combination with the NA-FC1 fan controller

The NV-SPH1 set is ideal for controlling multiple fans using the optional NA-FC1 controller (available separately). Thanks to a reverse-power design on the 4-pin input of the NV-FH2, the NA-FC1 can control the connected fans even if the hub is powered via 5.5mm barrel connector and if there is no other connection or input on the 4-pin interface.

Status LED and RPM monitoring

The NV-FH2 transmits the RPM speed signal of the fan connected to the first port (1) via the 4-pin control interface for speed monitoring. For additional watchdog functionality, all ports feature status LEDs that light up if an RPM signal is being received and go off if the fan stops or fails.





Cascading

The NV-FH2 supports cascading in the sense that up to ten NV-FH2 units can be daisy-chained in order to run and control up to 71 fans. The NV-FH2's control circuit with signal buffer keeps PWM signals stable without jeopardising TTL logic levels on the follower boards.

Warranty & support

Even with high-grade products and strict quality control, the possibility of defects cannot be eliminated entirely. Therefore, we aim at providing the highest possible level of reliability and convenience by offering a warranty period of 6 years and direct, fast and straightforward RMA service.

Should you encounter any problems with your NV-SPH1, please don't hesitate to contact our support team at support@noctua.at.

Please also consult the FAQ section on our website: www.noctua.at/faqs