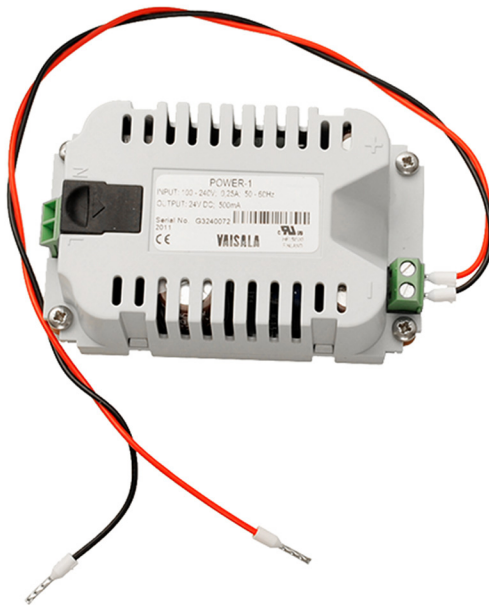


# Installation Guide

Power Supply Module

**POWER-1**



**VAISALA**

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Vaisala Oyj  
Vanha Nurmijärventie 21, FI-01670 Vantaa, Finland  
P.O. Box 26, FI-00421 Helsinki, Finland  
+358 9 8949 1

Visit our Internet pages at [www.vaisala.com](http://www.vaisala.com).

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# POWER-1 Power Supply Module

## Product overview

POWER-1 power supply module is designed for installation in Vaisala transmitters HMT330, DMT340, MMT330, PTU300, and PTB330. See the User Guide of your transmitter for details.

The POWER-1 spare part item contains the following parts:

- Power supply module
- Fastening screws (M3×8 DIN7985 PZ A4)
- Wires for connecting the power supply module to a transmitter's power terminals

The spare part item can optionally be ordered with a mains power cable (with US, AUS, EUR, or UK plug) and cable gland (M20×1.5).

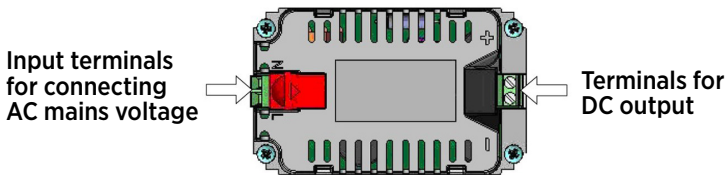


Figure 1 POWER-1 power supply module

Table 1 POWER-1 specifications

Operating voltage	100 ... 240 VAC, 50/60 Hz, 300 mA
Output	24 DC, 500 mA
Connections	Screw terminals for 0.5 ... 2.5 mm <sup>2</sup> wire (20 ... 14 AWG)
Operating temperature	-40 ... +60 °C (-40 ... +140 °F)
Operating humidity	0 ... 100 %RH
Outdoor use	Yes, inside an IP65 rated closure
Storage temperature	-40 ... +70 °C (-40 ... +158 °F)
Mains power cable temp. rating	≥ +75 °C (+167 °F)
Required housing classification	IP65
Overvoltage category	II
Pollution degree	2
Operating altitude	Max. 3000 m (9843 ft)
UL file number	E249387
Electrical safety compliance	Low Voltage Directive (2014/35/EU) UL/IEC/EN/BS 61010-1
Manufacturer	Vaisala Oyj, Vanha Nurmiärväntie 21, FI-01670 Vantaa, FINLAND Made in Finland

# Installation and wiring

Follow the steps below to install the POWER-1 module and/or a mains power cable. If the module and mains power cable have already been installed at Vaisala, these additional steps are not required.



**WARNING!** The mains power connection may be connected to the power supply module only by an authorized electrician. A readily accessible disconnect device must be incorporated in the fixed wiring.



- WARNING!**
- Do not detach the power supply module from the transmitter when the power is on.
  - Do not connect the mains power to power supply module when it is not installed in the transmitter.
  - Always connect the protective ground terminal.

## Preparing mains power cable



- Insulated ring terminal (size M4)
- Cable cutters, cable-stripping pliers, crimping tool

If using a mains power cable not provided by Vaisala, prepare the cable for connection to the power supply input terminal.

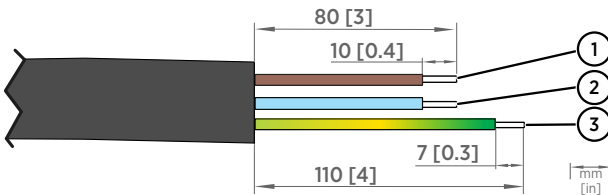


Figure 2 Example of stripped mains power cable

Number in figure	Wire	Ring terminal size	Min. ... max. wire cross-section
1	Line	N.a.	0.5 ... 2.5 mm <sup>2</sup> (20 ... 14 AWG)
2	Neutral		
3	Grounding	M4	

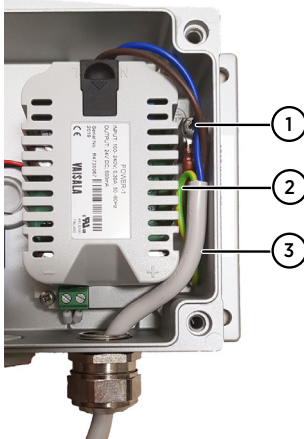
- ▶ 1. Strip approximately 110 mm (4 in) of the power cable's outer sheath to expose the wires.
2. Cut the line and neutral wires to the length of approximately 80 mm (3 in). If you are using a stranded wire, Vaisala recommends adding cable ferrules to the ends.
3. Leave the grounding wire 110 mm (4 in) long.
4. Crimp an insulated ring terminal (size M4) to the grounding wire.



**CAUTION!** Make sure that the grounding wire is longer than the line and neutral wires. Under mechanical stress, the grounding wire must be the last to disconnect from the protective ground terminal.

## Installing POWER-1 module

1. Disconnect power from the transmitter and open the transmitter cover.
2. If necessary, install a cable gland or conduit fitting in the transmitter for the mains power cable. Make sure the outer diameter of the cable is compatible with the cable gland or conduit fitting used.  
If the power supply module has already been installed at the factory and you are installing just the mains power cable, continue from [step 5](#).
3. Connect the wires from the power supply module's terminals marked with **+** and **-** to the power terminals on the component board of the transmitter.
4. Fasten the power module to the bottom of the transmitter housing with 4 screws. See the figure below for the orientation of the module.
5. Thread the mains power cable through the cable gland or conduit fitting.
6. Connect the mains power wires to the power supply module terminals marked with **N** and **L**.
7. Attach the grounding wire to the grounding terminal using the grounding screw and the ring terminal at the end of the wire.  
In the power cable supplied by Vaisala, the grounding wire is yellow-green.
8. Route the cable along the side of the module and tighten the cable gland (if used).
9. Close the cover. Connect power and verify that the transmitter starts up properly.



- 1 Grounding terminal and grounding screw. Connect the grounding wire here.
- 2 Grounding wire
- 3 Route the cable along the side of the module



There are no serviceable parts in POWER-1 power supply module. If damaged, the module can only be replaced with a new one.

# Warnings

## **Dieses Produkt entspricht der Niederspannungsrichtlinie (2014/35/EU).**

- Das Netzmodul darf nur von einem dazu befugten Elektriker angeschlossen werden.
- Trennen Sie das Netzmodul nicht vom Messwertgeber, wenn der Strom eingeschaltet ist.
- Verbinden Sie das Netzmodul nur mit der Spannungsquelle, wenn es im Messwertgeber HMT330/DMT340/MMT330/PTU300/PTB330 montiert ist.
- Das Erdungskabel muss zum Schutz immer angeschlossen sein.

## **Ce produit est conforme à la Directive relative à la Basse Tension (2014/35/UE).**

- Seul un électricien compétent est habilité à raccorder le module d'alimentation au secteur.
- Ne pas détacher le module d'alimentation du transmetteur lorsqu'il est en service.
- Ne pas raccorder le secteur au module d'alimentation lorsque celui-ci n'est pas installé dans le transmetteur HMT330/DMT340/MMT330/PTU300/PTB330.
- Toujours raccorder un bornier de protection à la terre.

## **Tämä tuote on pienjännitedirektiivin (2014/35/EU) mukainen.**

- Vaihtovirtaliitännän saa kytkeä tehonsyöttömoduuliin ainoastaan valtuutettu sähköasentaja.
- Älä irrota tehonsyöttömoduulia lähettimestä, kun virta on kytketty.
- Älä kytke verkkovirtaa tehonsyöttömoduuliin, jos kyseistä moduulia ei ole asennettu HMT330/DMT340/MMT330/PTU300/PTB330-lähettimeen.
- Kytke aina maadoitusliittimet.

## **Questo prodotto è conforme alla Direttiva sul basso voltaggio (2014/35/UE).**

- La conduttura elettrica può essere collegata al modulo di alimentazione elettrica soltanto da un elettricista autorizzato.
- Non staccare l'alimentazione elettrica dal trasmettitore quando è acceso.
- Non collegare la corrente elettrica al modulo di alimentazione elettrica se non è installato nel trasmettitore HMT330/DMT340/MMT330/PTU300/PTB330.
- Collegare sempre il morsetto protettivo a terra!

## **Dette produkt er i overensstemmelse med direktivet om lavspænding (2014/35/EU).**

- Netstrømskoblingen til må kun tilsluttes strømforsyningsmodulet af en autoriseret elinstallatør.
- Strømforsyningsmodulet må ikke løsgrøres fra senderen, mens spændingen er sluttet til.
- Slut ikke netspændingen til strømforsyningsmodulet, når det ikke er installeret i HMT330/DMT340/MMT330/PTU300/PTB330-senderen.
- Forbind altid den beskyttende jordklemme!

## **Dit product voldoet aan de eisen van de richtlijn 2014/35/EU (Laagspanningsrichtlijn).**

- De stroom kan aan de stroomtoevoer module aangesloten worden alleen door een bevoegde monteur.
- Het is niet toegestaan de stroomtoevoer module van de transmitter los te koppelen wanneer de stroom aan is.
- Het is niet toegestaan de stroom aan de stroomtoevoer module aan te sluiten als deze niet in een HMT330/DMT340/MMT330/PTU300/PTB330-transmitter is gemonteerd.
- Altijd beschermend aardcontact aansluiten!

**Denna produkt uppfyller kraven i direktivet om lågspänning (2014/35/EU).**

- Nätanslutningen (växelströmsanslutningen) får bara anslutas till strömförsörjningsmodulen av en behörig elektriker.
- Ta inte loss strömförsörjningsmodulen från mätaren när strömmen är på.
- Anslut inte strömförsörjningsmodulen till nätet när den inte är installerad i HMT330/DMT340/MMT330/PTU300/PTB330-mätaren.
- Anslut alltid en skyddande jordningsplint

**See toode vastab madalpinge direktiivile (2014/35/EL).**

- Voolukaabli võib vooluallika mooduli külge ühendada ainult volitatud elektrik.
- Ärge ühendage vooluallika moodulit saatja küljest lahti, kui vool on sisse lülitatud.
- Ärge ühendage voolukaablit vooluallika mooduli külge, kui seda pole HMT330/DMT340/MMT330/PTU300/PTB330-tüüpi saatjasse paigaldatud.
- Ühendage alati kaitsev maandusklemm!

**Ez a termék megfelel a Kisfeszültségű villamos termékek irányelvnek (2014/35/EU).**

- A hálózati feszültséget csak feljogosított elektrotechnikus csatlakoztathatja a tápegységmodulra.
- A bekápcsolót távadóról ne csatlakoztassa le a tápegységmodult.
- Ne csatlakoztassa a hálózati feszültséget a tápegységmodulhoz, ha az nincs beépítve a HMT330/DMT340/MMT330/PTU300/PTB330 távadóba.
- Feltétlenül csatlakoztasson földelő védőkápcsolót!

**Este producto cumple con la directiva de bajo voltaje (2014/35/UE).**

- La conexión de la alimentación principal al módulo de alimentación sólo puede realizarla un electricista autorizado.
- No desenchufe el módulo de alimentación del transmisor cuando esté encendido.
- No conecte la alimentación principal al módulo de alimentación cuando no esté instalado en el transmisor HMT330/DMT340/MMT330/PTU300/PTB330.
- Conecte siempre el terminal de protección de conexión a tierra.

**Šis produkts atbilst Zemsprieguma direktīvai (2014/35/ES).**

- Strāvas pieslēgumu var pieslēgt pie barošanas avota moduļa tikai autorizēts elektrīķis.
- Neatvienot barošanas avota moduli no raidītāja, kad pieslēgta strāva.
- Nepievienot strāvu barošanas avota modulim, ja tas nav uzstādēts HMT330/DMT340/MMT330/PTU300/PTB330 raidītājā.
- Vienmēr pievienot aizsargājošu iezemētu terminālu !

**Ten produkt spełnia wymogi Dyrektywy niskonapięciowej (2014/35/UE).**

- Napięcie zasilające powinno zostać podłączone do modułu zasilacza tylko przez wykwalifikowanego elektryka.
- Nie wolno odłączać modułu zasilacza od nadajnika, kiedy zasilanie jest włączone.
- Nie wolno podłączać napięcia zasilającego do modułu zasilacza, kiedy nie jest on zamontowany w nadajniku HMT330/DMT340/MMT330/PTU300/PTB330.
- Zawsze należy podłączać zabezpieczający zacisk uziemiający!

**Šis produktas atitinka direktyvą dėl žemos įtampos prietaisų (2014/35/ES).**

- Elektros tinklą su energijos tiekimo modulių sujungti gali tik įgaliotas elektrikas.
- Niekada neišimkite energijos tiekimo modulio iš siųstuvo, kai maitinimas yra įjungtas.
- Jei energijos tiekimo modulis nėra įmontuotas HMT330/DMT340/MMT330/PTU300/PTB330 siųstuve, neįjunkite jo į elektros tinklą.
- Visada prijunkite prie apsauginės įžeminimo jungties!

**Tento výrobek vyhovuje Směrnici pro nízké napětí (2014/35/EU).**

- Připojení síťového napájení k napájecímu modulu smí provádět pouze oprávněný elektrikář.
- Neodpojujte napájecí modul od snímače při zapnutém napájení.
- Nepřipojujte síťové napájení k napájecímu modulu, pokud není instalován ve snímači HMT330/DMT340/MMT330/PTU300/PTB330.
- Vždy zapojte ochrannou zemnicí svorku!



# Technical support



Contact Vaisala technical support at [helpdesk@vaisala.com](mailto:helpdesk@vaisala.com). Provide at least the following supporting information as applicable:

- Product name, model, and serial number
- Software/Firmware version
- Name and location of the installation site
- Name and contact information of a technical person who can provide further information on the problem

For more information, see [www.vaisala.com/support](http://www.vaisala.com/support).

## Maintenance and calibration services



Vaisala offers comprehensive customer care throughout the life cycle of our measurement instruments and systems. Our factory services are provided worldwide with fast deliveries. For more information, see [www.vaisala.com/calibration](http://www.vaisala.com/calibration).

- Vaisala Online Store at [store.vaisala.com](http://store.vaisala.com) is available for most countries. You can browse the offering by product model and order the right accessories, spare parts, or maintenance and calibration services.
- To contact your local maintenance and calibration expert, see [www.vaisala.com/contactus](http://www.vaisala.com/contactus).

## Warranty

For standard warranty terms and conditions, see [www.vaisala.com/warranty](http://www.vaisala.com/warranty).

Please observe that any such warranty may not be valid in case of damage due to normal wear and tear, exceptional operating conditions, negligent handling or installation, or unauthorized modifications. Please see the applicable supply contract or Conditions of Sale for details of the warranty for each product.

## Recycling



Recycle all applicable material.



Follow the statutory regulations for disposing of the product and packaging.

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