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VIESSMANN 0-10V OpenTherm Input Module

Specifications

- Product Name: WB1A, WB1B boiler series / B1HA, B1KA boiler series

- Power Supply: 24VAC
- Boiler Series: B1HA/B1KA series boilers
- Power Supply Output: 24VAC
- Operating Temperature: 6 (80)

Product Usage Instructions

Regulated Operation:
Ensure the boiler is operating under regulated conditions. Check for any communication faults and address them promptly.

Power Supply Connection:
Connect the provided 24VAC power supply to the designated input on the boiler series to ensure proper functionality.

OpenTherm Device Replacement:
If there is a fault with the OpenTherm device, check the connections and wires. If necessary, replace the OpenTherm device to maintain optimal performance.

Maintenance and Troubleshooting:
Regularly inspect and maintain the boiler series to prevent any operational issues. In case of any faults or errors, refer to the troubleshooting section of the user manual for guidance.

Open Therm

Input Module 0-1 OV, Part NO. 7249 069 for use with Vitodens 100, WBIA series boilers, WBIB CombiPLUS series boilers, BIHA and BI KA series boiler

Safety and Installation Requirements
Please ensure that these instructions are read and understood before installation. Failure to comply with the instructions listed below can cause product/property damage, severe personal injury, and/or loss of life.

Working on the equipment
The installation, adjustment, service, and maintenance of this product must be done by a

licensed professional heating contractor who is qualified and experienced in the installation, service, and maintenance of hot water boilers. There are no user-serviceable parts on the boiler, burner or control.

- Ensure the main power supply to the equipment, the heating system, and all external controls has been deactivated. Close the main gas supply valve. Take precautions in both instances to avoid accidental activation of power during service work.
- It is not permissible to perform service work on any component part, ensuring safe operation of the heating system. When replacing parts, use original Viessmann or Viessmann-approved replacement parts.
- Ensure that the installation literature of other Vitodens 100 components is referenced.

Input Module Description

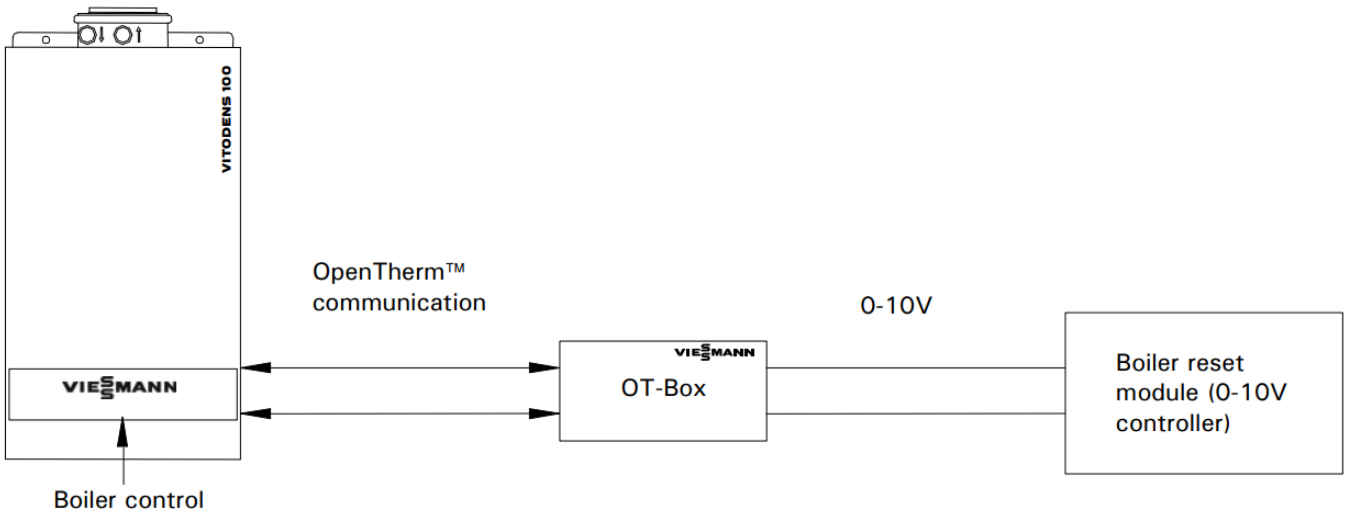


Fig. 1
OpenTherm communication system

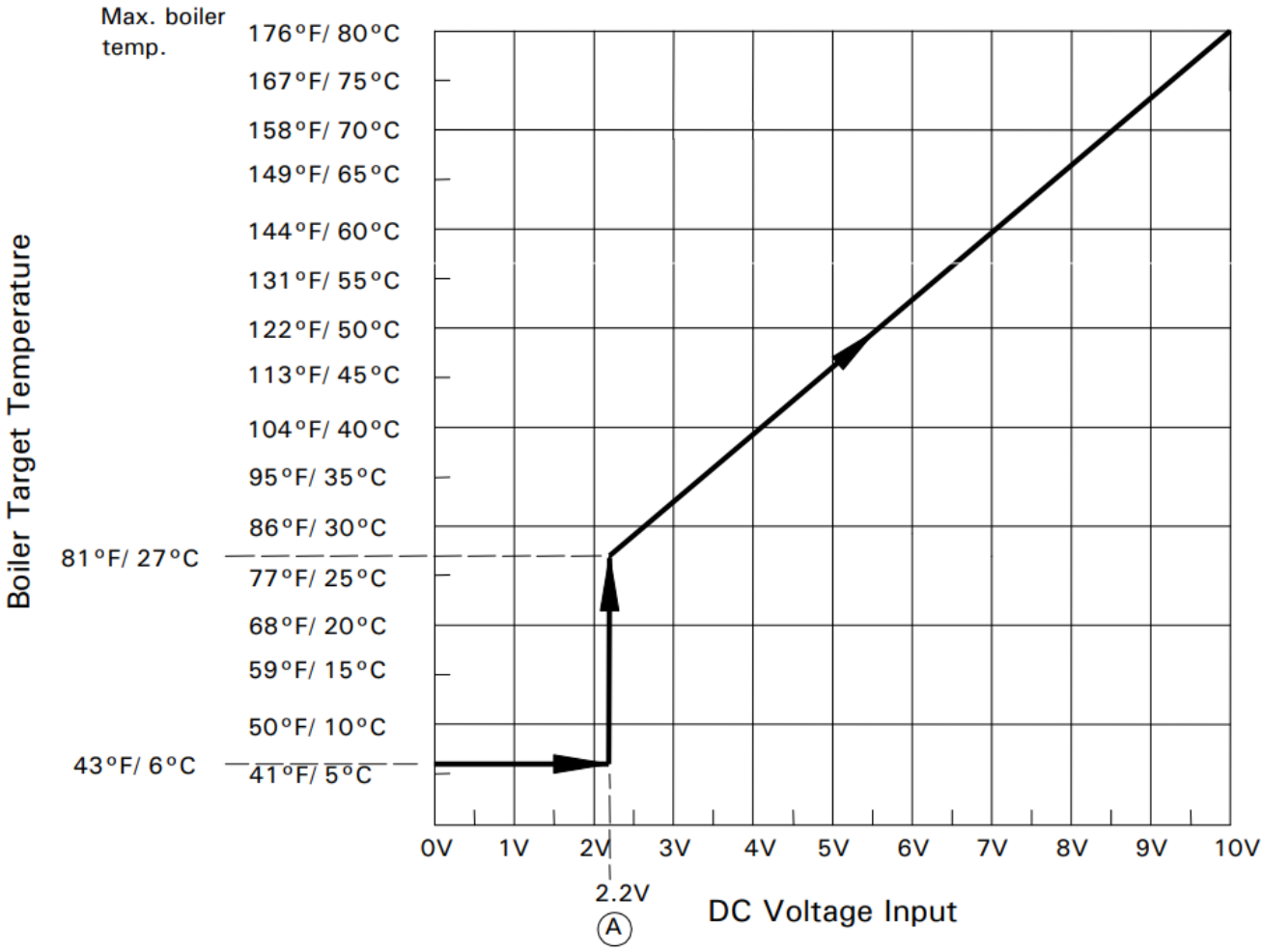
What is OpenThermTM

The Open Therm (OT) protocol is a point-to-point communication system that connects a boiler with a room controller. The room unit calculates a heating demand (water temperature request) and transmits it to the boiler. The boiler will adjust the heat input accordingly (low-high modulation).

- The Viessmann Input Module is designed to accept a 0-1 OV (DC) modulating input signal from a boiler reset module controller and send this signal to the Vitodens 100 with Open Therm communication. See the chart on the fo//owing page for the signa/ translation protocol of C)- IOV to boiler approximate supply temperature.

Installation

Input Module Operating Characteristics



- Lowest voltage signal (from below 0.9 V) to start the boiler (cut-in) — 2.2 V
- Lowest voltage signal to shut down (cut-out) the boiler = 0.9 V

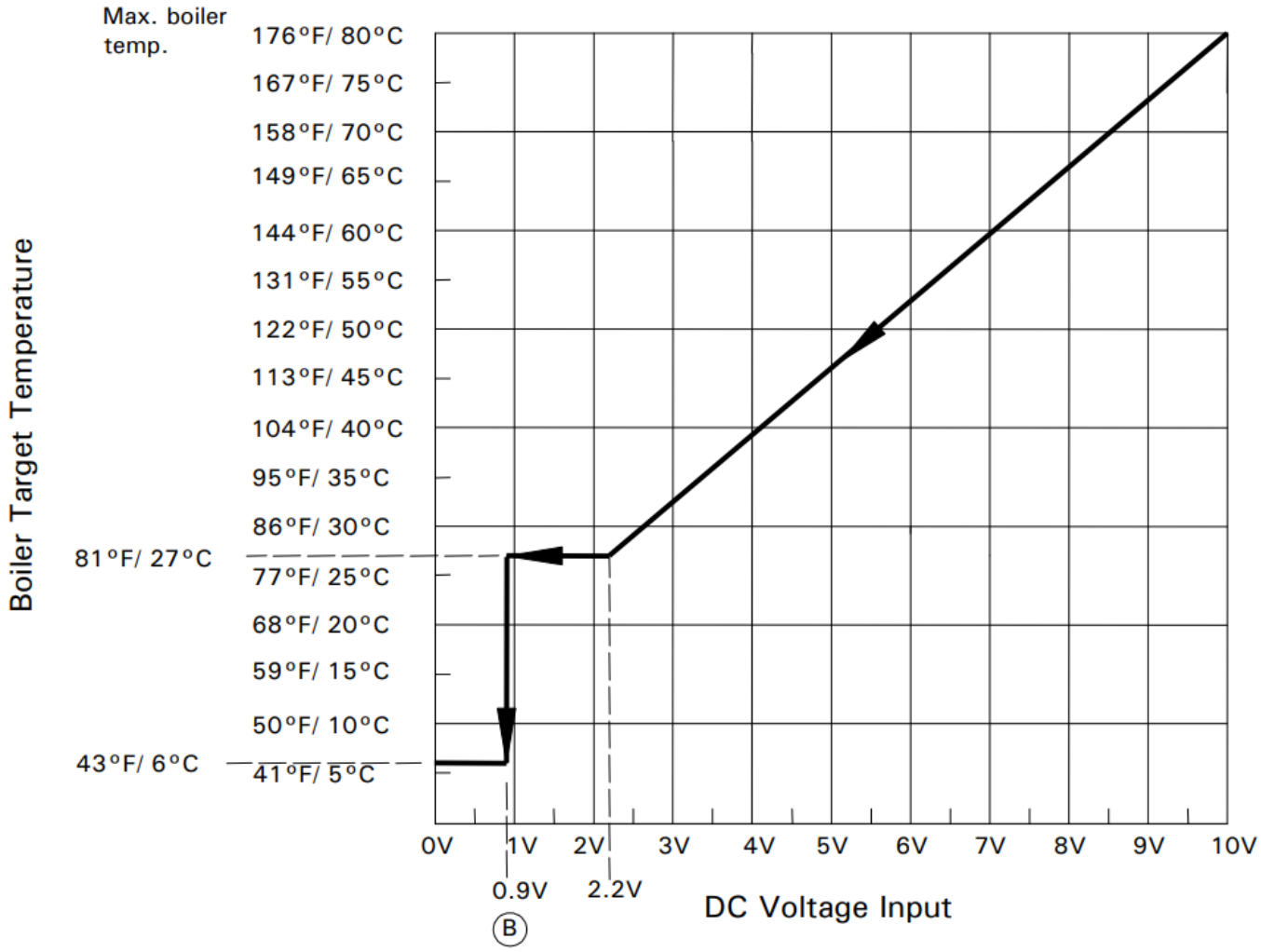


Fig. 2
Input Module voltage – temperature translation chart

- Lowest voltage signal (from below 0.9 V) to start the boiler (cut-in) — 2.2 V
- Lowest voltage signal to shut down (cut-out) the boiler = 0.9 V

Installation

Fig. 3
Input Module base with closed terminal cover

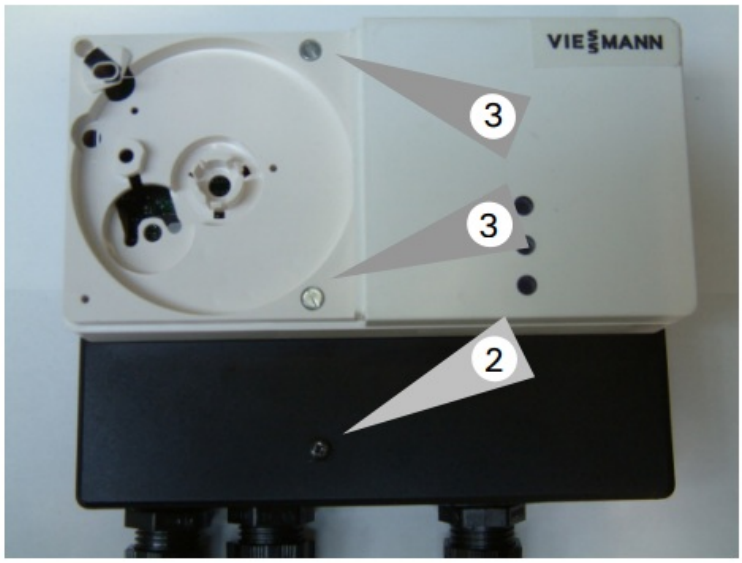


Fig. 4
Input Module with left cover open

1. Remove the left white cover of the Input Module.
2. Remove the black cover of the Input Module.

Fig. 5
Input Module with the module pulled off from its sub-base

3. Loosen two screws and gently pull the module off its sub-base.
4. Remove the required number of knockouts. Install supplied strain reliefs and guide wire harness into the terminal box.

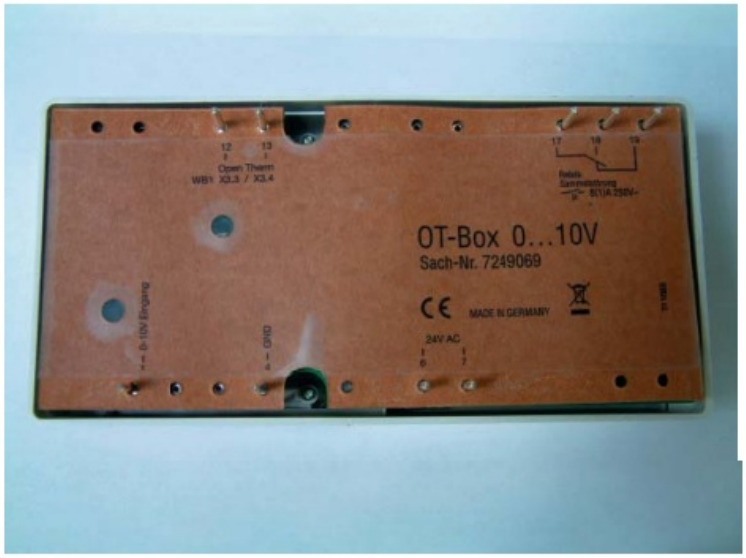


Fig. 6
Rear view of Input Module

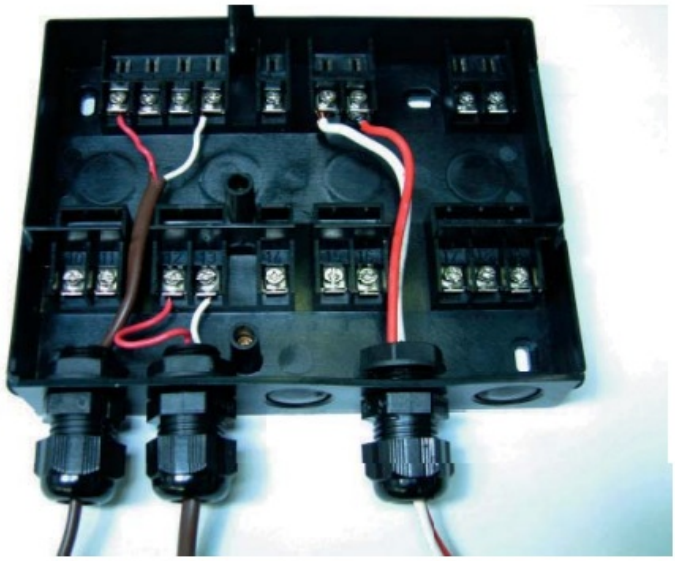


Fig. 7
Input Module sub-base / control unit

5. Mount the terminal base onto wall close to the boiler.
6. Make electrical connections. (See wiring diagram on page 5)

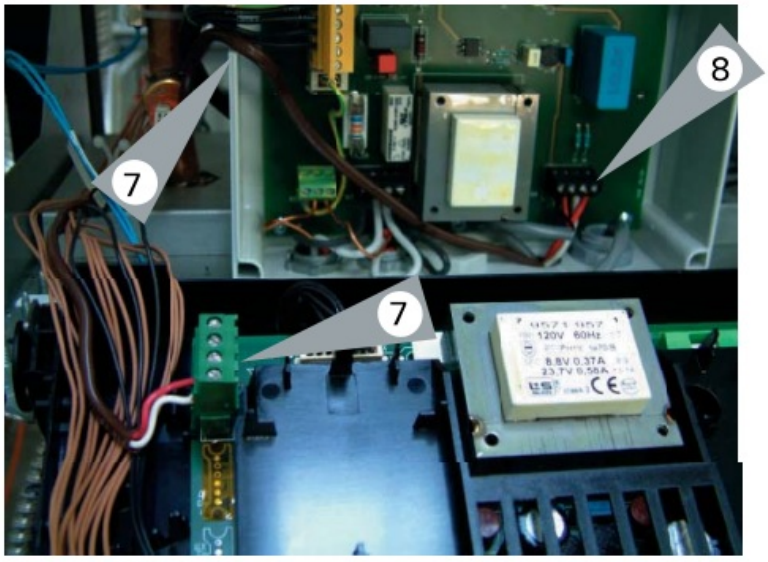


Fig. 8
Boiler Power Pump Module (WB1A shown)

7. Run Input Module communication cable (2-wire 18AWG) through Power Pump Module to boiler control sub-base Terminal X3.3, X3.4 for WBIA series boilers or X21.1, X21.2 for WBIB CombiPLUS series boilers, or to connection terminals X21.1, X21.2 on the BI HA/BI KA series boilers.
8. Connect power supply harness to RT terminals in the Power Pump Module Terminals X4.3 and X4.4. Note: BI HA/BI KA requires an external 24VAC power source (field supplied).

Wiring Diagram WBIA, WBIB boiler series

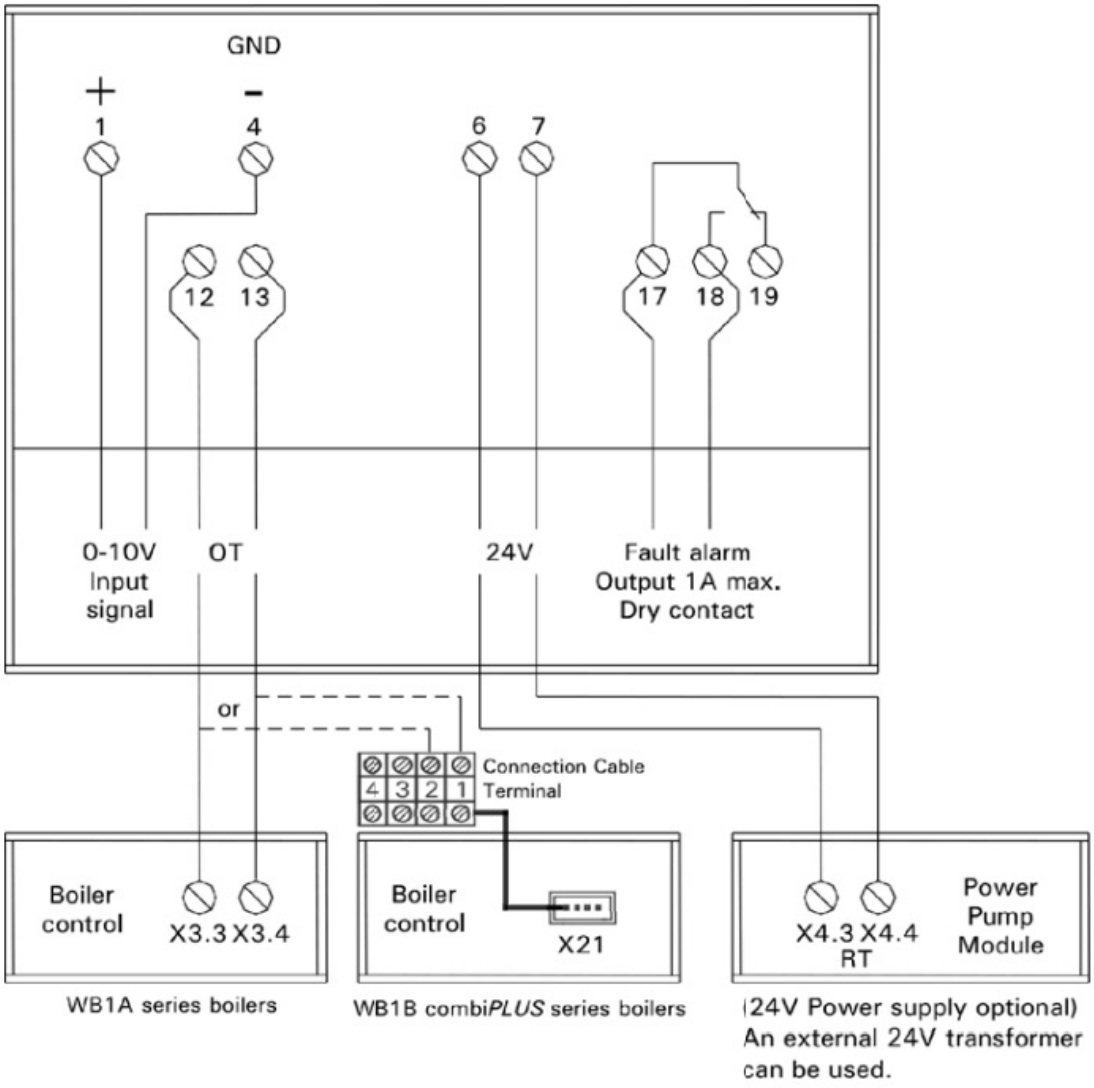


Fig. 9
Input Module wiring diagram

- If needed (service or emergency heat request), a call for heat can be initiated by jumpering Terminal X3.3, X3.4, or X21.1, X21.2 on the boiler control or Terminals 12,

13 on the Input Module sub-base. The boiler will operate as it would with room thermostat operation and will cycle on the adjustable high limit: setting.

- Refer to the Vitodens 100 Operating Instructions.

A call for domestic hot water or external heat demand (closing the ST contacts on the PPM of the boiler) has priority over a call from the Input Module. The boiler will operate with a constant setpoint of 780C / 1720F during a call for domestic hot water.

Wiring Diagram BIHA, BIKA boiler series

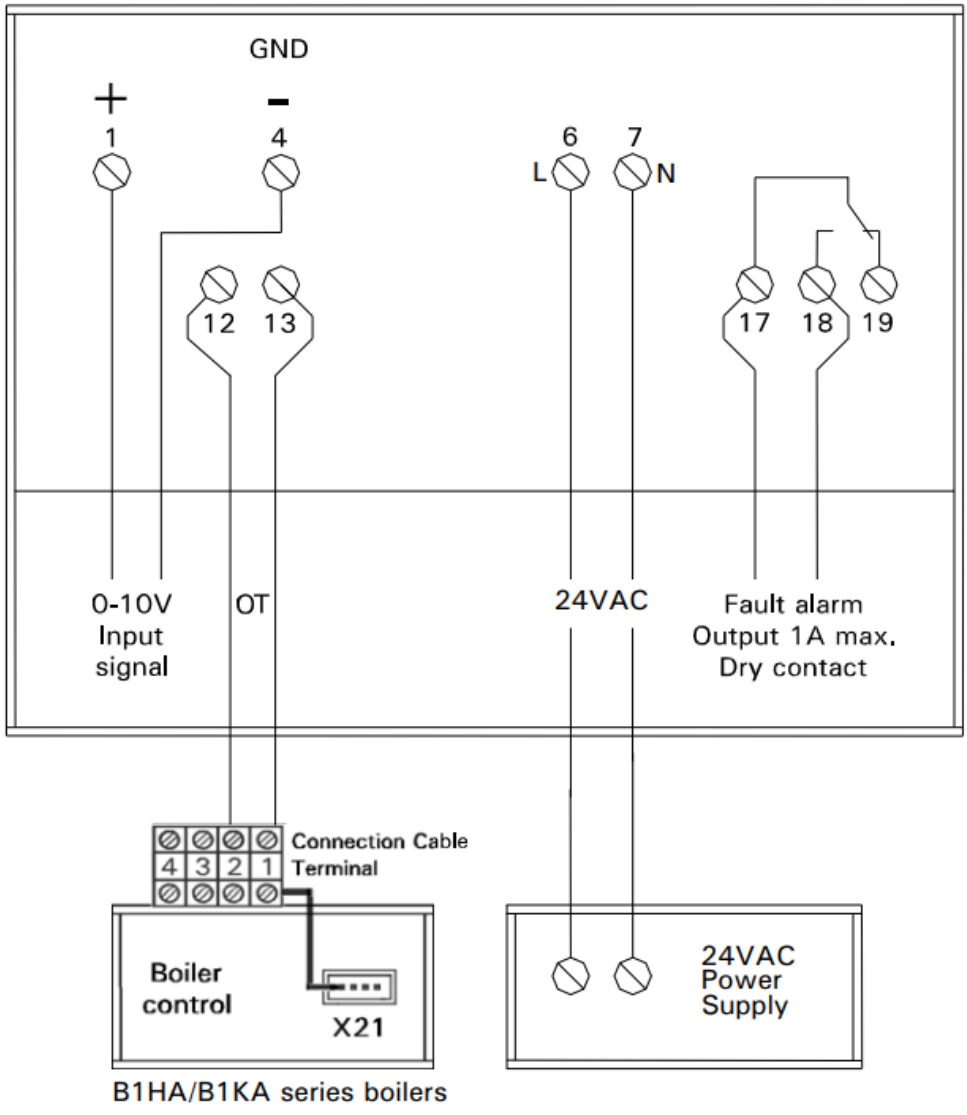


Fig.10
Input Module wiring diagram

If needed (service or emergency heat request), a call for heat can be initiated by jumpering Terminal X 21.1, X21.2 on the boiler control or Terminals 12, 13 on the Input Module sub-base. The boiler will operate as it would with room thermostat operation and will cycle on the adjustable high limit setting.

- Refer to the Vitodens 100 Operating Instructions.
- A call for domestic hot water or external heat demand has priority over a call from the Input Module. The boiler will operate with a constant setpoint of 176 OF (800C) during a call for domestic hot water.

LED Display Status

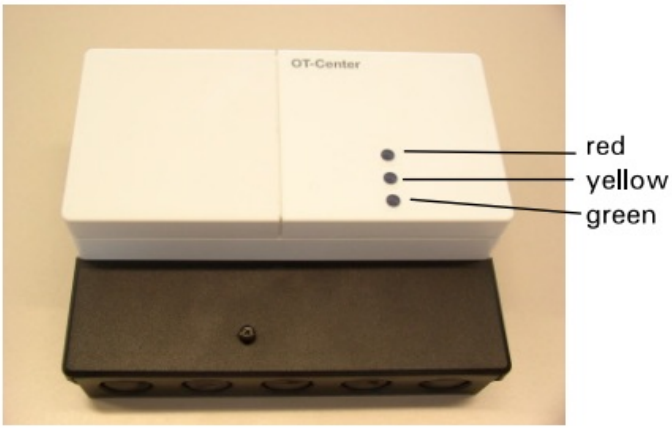


Fig. 11
Input Module LED display

- **LED red** Fault alarm output (dry contact) maximum IA (Terminals 18-19 closed)
- **LED yellow** Call for heat
- **LED green (flashing)**
  Bus communication was established between the boiler and the Input Module

Troubleshooting

Fault display on the boiler control unit (WBIA, WBI B series)

Fault message in display window	System behavior	Cause	Corrective measures
89 (red light flashing)	Non-permanent lockout (boiler in fault mode)	Communication error OpenTherm interface	Turn boiler OFF, then ON Check communication cable on Terminals X3.3, X3.4 or X21.1, X21.2 on boiler controls. Check connection on Input Module sub-base Terminals 12, 13. Check 24VAC output of PPM of the boiler Terminals X4.3, X4.4 (RT Terminals). Check for 0-10VDC input signal (a min. of 3.0 V is required to start up the boiler).

Fault display on the boiler control unit (BI HA, BI KA series)

Fault message in display window	System behavior	Cause	Corrective measures
89	Regulated operation without OpenTherm device	Communication fault OpenTherm device	Check connections and wire; replace OpenTherm device if required.

- Viessmann Manufacturing Company ULC 750 McMurray Road
- Waterloo, Ontario• N2V 2G5• Canada
- Techinfo Line 1-888-484-8643
- 1-800-387-7373 • Fax 519-885-0887
- wwvv.viessmann.ca • info@viessmann.ca
- Viessmann Manufacturing Company (U.S.) Inc. 45 Access Road
- Warwick, Rhode Island• 02886• USA
- TechInfo Line 1-888-484-8643
- 1-800-288-0667 • Fax 401-732-0590
- wwvv.viessmann-us.com• info@viessmann-us.com

FAQs

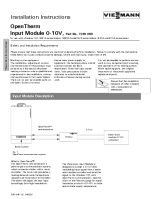
Q: What should I do if the boiler series displays a communication fault?

A: Check the connections and wires, especially with the OpenTherm device. Replace the OpenTherm device if needed to resolve the issue.

Q: How do I ensure proper power supply to the boiler series?

A: Connect the provided 24VAC power supply to the designated input on the boiler series to ensure it receives adequate power for operation.

Documents / Resources

	VIESSMANN 0-10V OpenTherm Input Module [pdf] Installation Guide 7249 069, 5351 049 - 02, 0-10V OpenTherm Input Module, OpenTherm In put Module, Input Module, Module

References

- User Manual

VIESSMANN

0-10V OpenTherm Input Module, 5351 049 - 02, 7249 069, Input Module, Module, OpenTherm Input Module, VIESSMANN

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