

Connection and wiring diagram for contractors

VIESMANN

Vitocal 200-A

Type AWO(-M)/AWO(-M)-E 201.A04 to A16

Type AWO(-M)-E-AC 201.A04 to A16

Air/water heat pump, monoblock version for heating and cooling operation

Vitocal 200-S

Type AWB(-M)/AWB(-M)-E 201.D04 to D16

Type AWB(-M)-E-AC 201.D04 to D16

Air/water heat pump, split version for heating and cooling operation



VITOCAL 200-A **VITOCAL 200-S**



Safety instructions

Safety instructions



Please follow these safety instructions closely to prevent accidents and material losses.

Safety instructions explained



Danger

This symbol warns against the risk of injury.



Please note

This symbol warns against the risk of material losses and environmental pollution.

Note

Details identified by the word "Note" contain additional information.

Target group

These instructions are exclusively intended for authorised contractors.

- Work on the refrigerant circuit may only be carried out by authorised refrigeration engineers.
- Work on electrical equipment must only be carried out by a qualified electrician.
- The system must be commissioned by the system installer or a qualified person authorised by the installer.

Regulations to be observed

- National installation regulations
- Statutory regulations for the prevention of accidents
- Statutory regulations for the protection of the environment
- Codes of Practice of the relevant trade associations
- All relevant safety regulations as defined by DIN, EN, DVGW, VDE and locally applicable standards
 - Ⓐ ÖNORM, EN and ÖVE
 - Ⓒ SEV, SUVA, SVTI, SWKI and SVGW

Safety instructions for working on the system

Working on the system

- Isolate the system from the power supply, e.g. by removing the separate fuse or by means of a mains isolator, and check that it is no longer live.

Note

In addition to the control circuit there may be several power circuits.



Danger

Contact with live components can result in severe injuries. Some components on PCBs remain live even after the power supply has been switched off.

Prior to removing covers from the appliances, wait at least 4 minutes until the voltage has completely dropped out.

- Safeguard the system against reconnection.
- Wear suitable personal protective equipment when carrying out any work.



Danger

Hot surfaces can cause burns.

- Before maintenance and service work, switch OFF the appliance and let it cool down.
- Never touch hot surfaces on the appliance, fittings or pipework.



Please note

Electronic assemblies can be damaged by electrostatic discharge.

Prior to commencing work, touch earthed objects such as heating or water pipes to discharge static loads.

Repair work



Please note

Repairing components that fulfil a safety function can compromise the safe operation of the system.

Replace faulty components only with genuine Viessmann spare parts.

Safety instructions (cont.)**Auxiliary components, spare and wearing parts**

- !** **Please note**
Spare and wearing parts that have not been tested together with the system can compromise its function. Installing non-authorized components and making non-approved modifications or conversions can compromise safety and may invalidate our warranty.
For replacements, use only original spare parts supplied or approved by Viessmann.

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Notes

- Observe the information on electrical connections in the installation and service instructions.
- In the case of a power supply with power-OFF facility, the power to the control circuit (heat pump control unit) must be supplied without interruption by the power supply utility.
- Identification of electrical equipment (in accordance with IEC 81346-2):
Example: /7.5
/ = cross-reference
7. = sheet number
5 = current path

Electrical equipment

B	Pressure switch, temperature switch, thermal relay
E	Oil sump heater, instantaneous heating water heater
F	Fuse, thermal relay, flow switch
J	Plug-in connector
K	Contactors, relays
M	Motor, circulation pump, motorised valve, compressor
N	Controller
Q	Mains isolator, contactor, output relay
R	Choke coil
S	Control switch
T	Inverter
X	Terminals, plugs
Y	4-way diverter valve

Sheet 2: compressor 230 V~

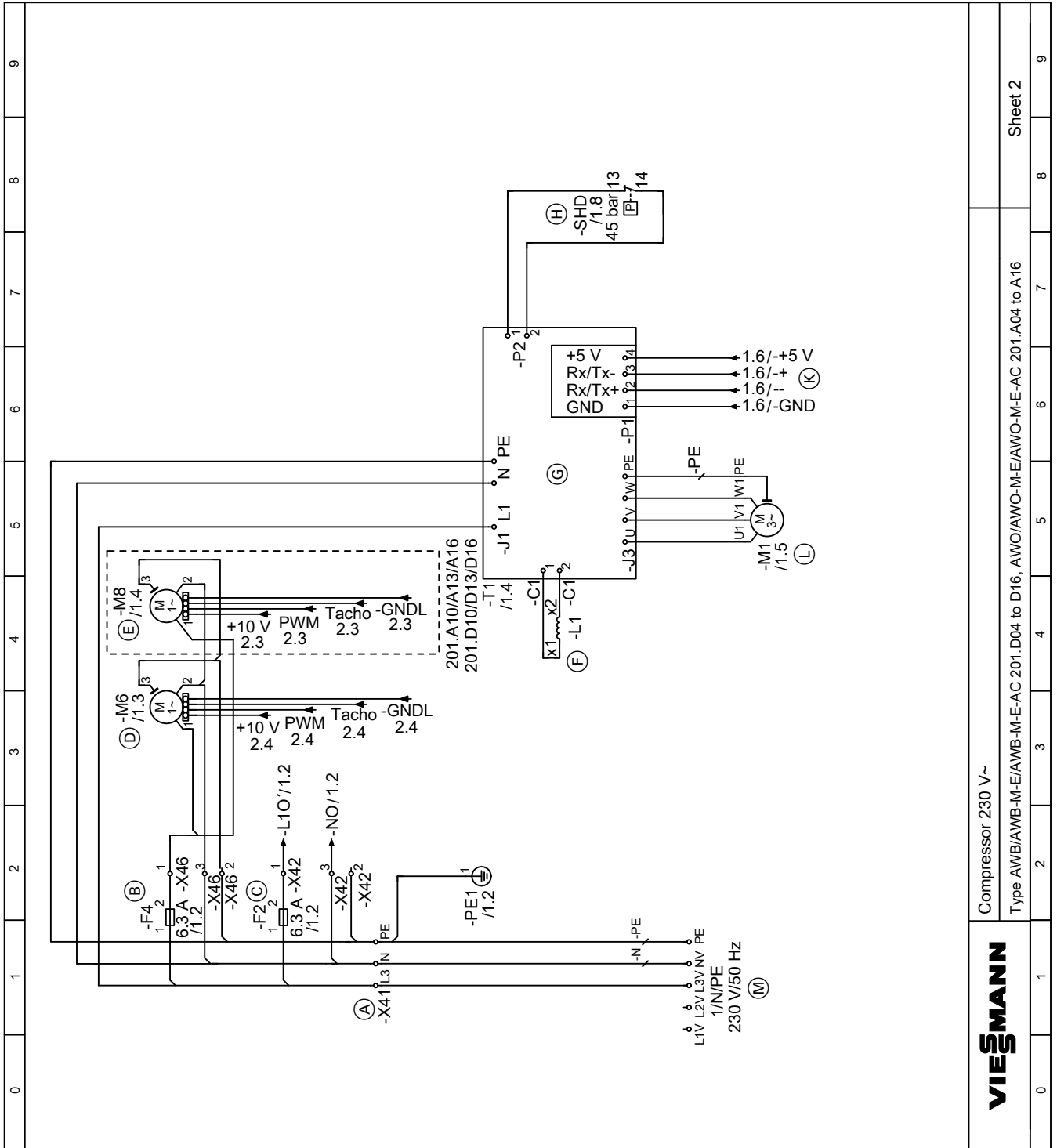


Fig. 2

- (A) Mains terminals
- (B) Fan fuse 6.3 A (slow)
- (C) Refrigerant circuit controller fuse 6.3 A (slow)
- (D) Fan motor 1
- (E) Only types 201.A10/A13/A16 and 201.D10/D13/D16:
Fan motor 2
- (F) Inverter coil
- (G) Inverter
- (H) Safety high pressure switch
- (K) Modbus cable to the refrigerant circuit controller
- (L) Compressor motor
- (M) Outdoor unit power supply 230 V/50 Hz

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Compressor 230 V~

Type A/WB/AWB-M-E/AWB-M-E-AC 201.D04 to D16, A/WO/AWO-M-E/AWO-M-E-AC 201.A04 to A16

Sheet 2

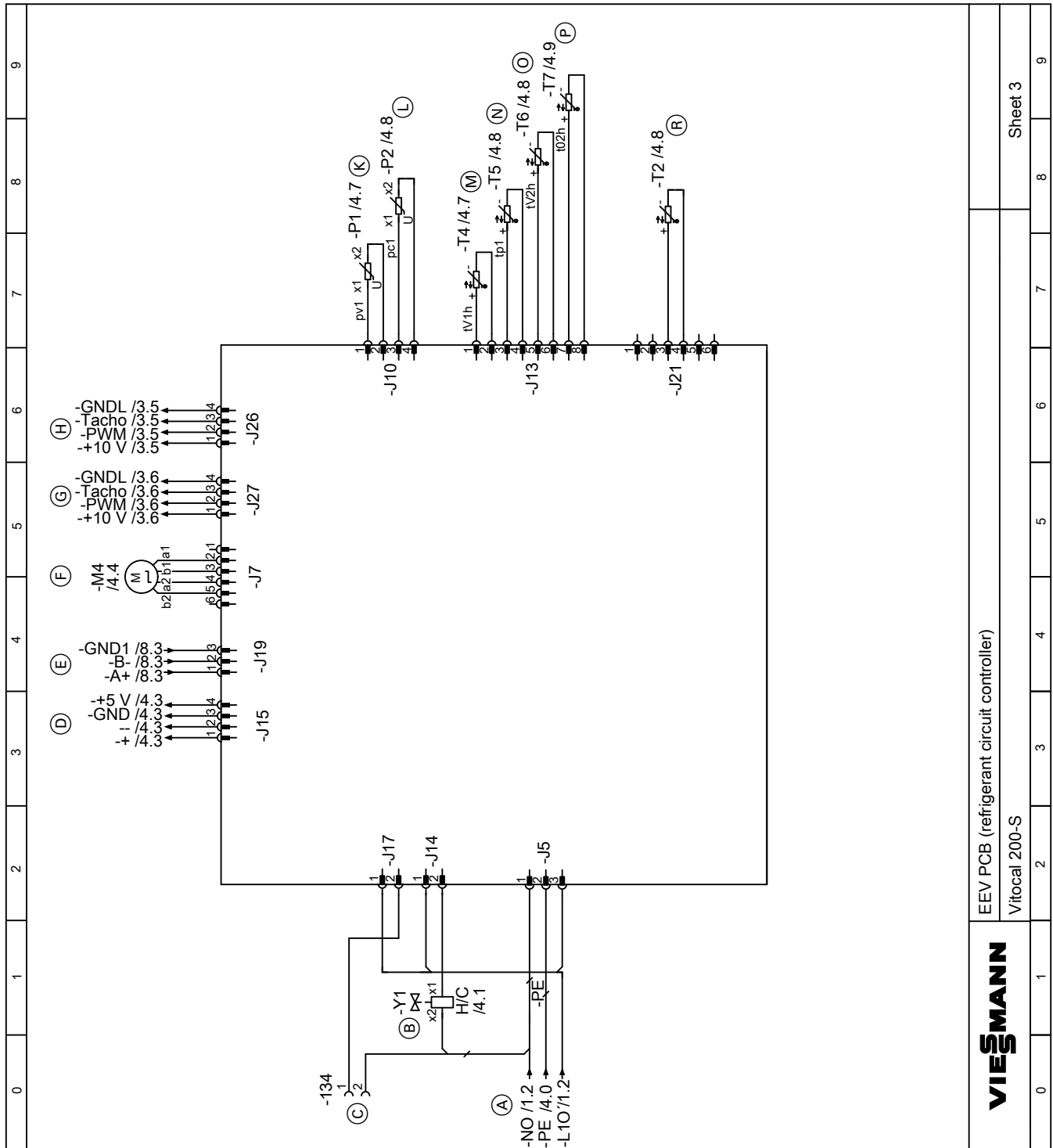


Fig. 3

- (A) Refrigerant circuit controller power supply
- (B) 4-way diverter valve
- (C) Ribbon heater for condensate pan
- (D) Modbus cable to the inverter
- (E) Modbus cable to the indoor unit, controller and sensor PCB, terminal X18
- (F) Electronic expansion valve
- (G) Fan control 1
- (H) Only types 201.D10/D13/D16: Fan control 2
- (K) Low pressure sensor
- (L) High pressure sensor
- (M) Suction gas temperature sensor (upstream of compressor) (NTC 10 kΩ)
- (N) Air intake temperature sensor (NTC 10 kΩ)
- (O) Hot gas temperature sensor (NTC 10 kΩ)
- (P) Suction gas temperature sensor (downstream of evaporator) (NTC 10 kΩ)
- (R) Refrigerant circuit controller temperature sensor (NTC 10 kΩ)

VIESSMANN		EEV PCB (refrigerant circuit controller)							Sheet 3
		Vitocal 200-S							
0	1	2	3	4	5	6	7	8	9

Sheet 4: EEV PCB (refrigerant circuit controller [4-3]), Vitocal 200-A

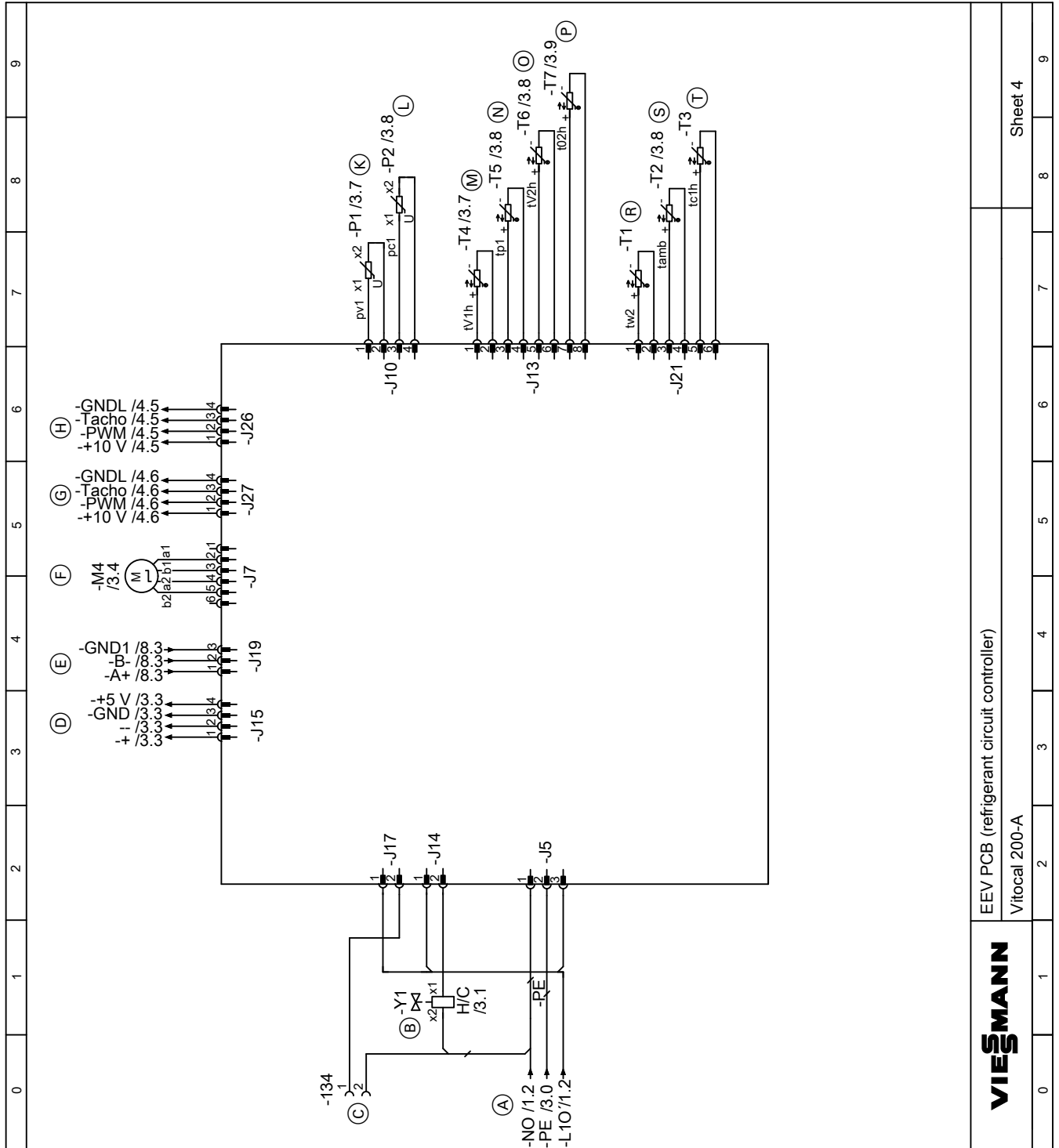


Fig. 4

- (A) Refrigerant circuit controller power supply
- (B) 4-way diverter valve
- (C) Ribbon heater for condensate pan
- (D) Modbus cable to the inverter
- (E) Modbus cable to the indoor unit, controller and sensor PCB, terminal X18
- (F) Electronic expansion valve
- (G) Fan control 1
- (H) Only types 201.A10/A13/A16: Fan control 2
- (K) Low pressure sensor
- (L) High pressure sensor
- (M) Suction gas temperature sensor (upstream of compressor) (NTC 10 kΩ)
- (N) Air intake temperature sensor (NTC 10 kΩ)
- (O) Hot gas temperature sensor (NTC 10 kΩ)
- (P) Suction gas temperature sensor (downstream of evaporator) (NTC 10 kΩ)
- (R) Secondary circuit flow temperature sensor (NTC 10 kΩ)
- (S) Refrigerant circuit controller temperature sensor (NTC 10 kΩ)
- (T) Liquid gas temperature sensor (NTC 10 kΩ)



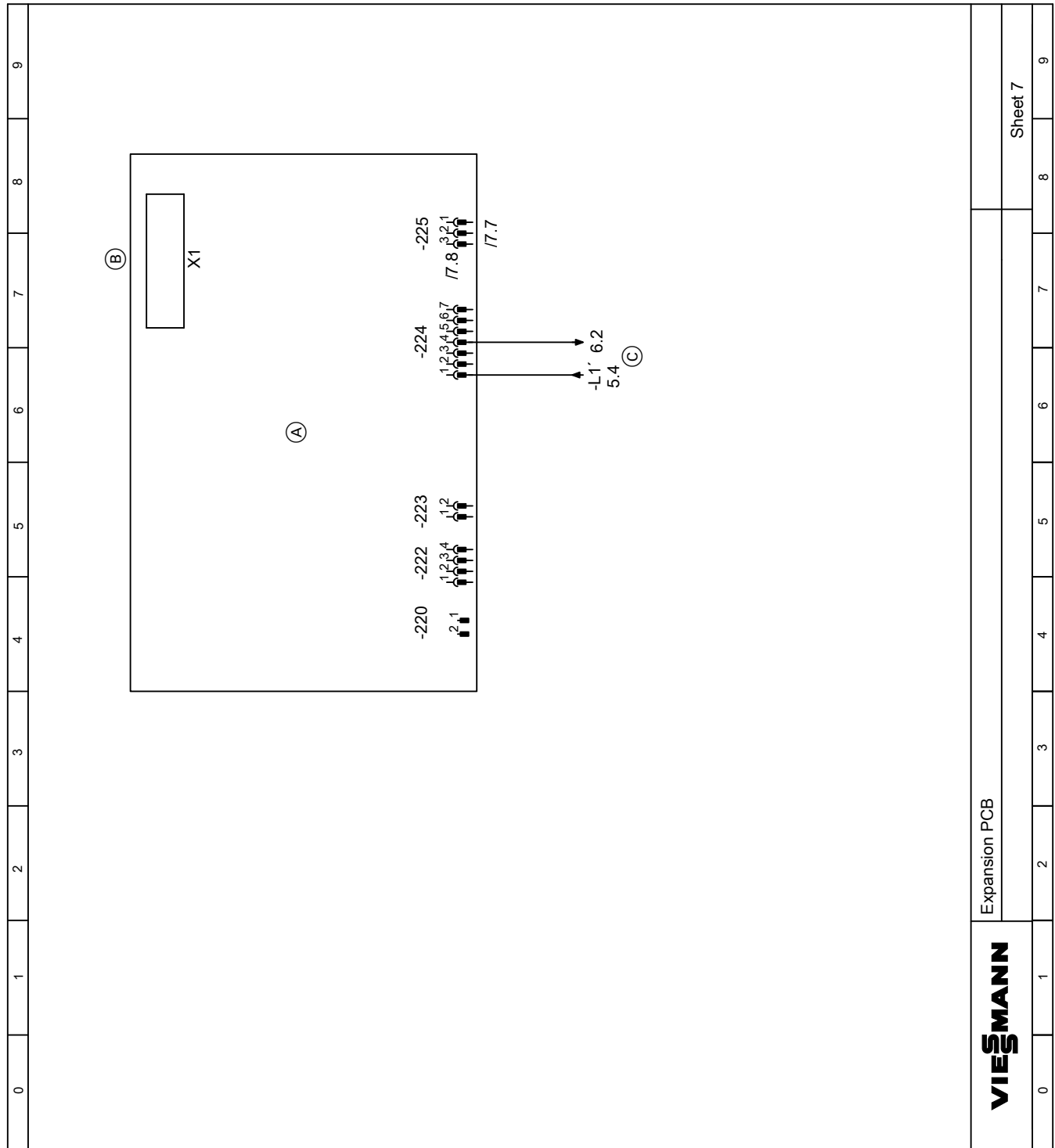


Fig. 7

- (A) Expansion PCB
- (B) Ribbon cable to the controller and sensor PCB
- (C) Output relay for instantaneous heating water heater, stage 2

VIESMANN		Expansion PCB							Sheet 7	
		0	1	2	3	4	5	6	7	8

Sheet 8: controller and sensor PCB

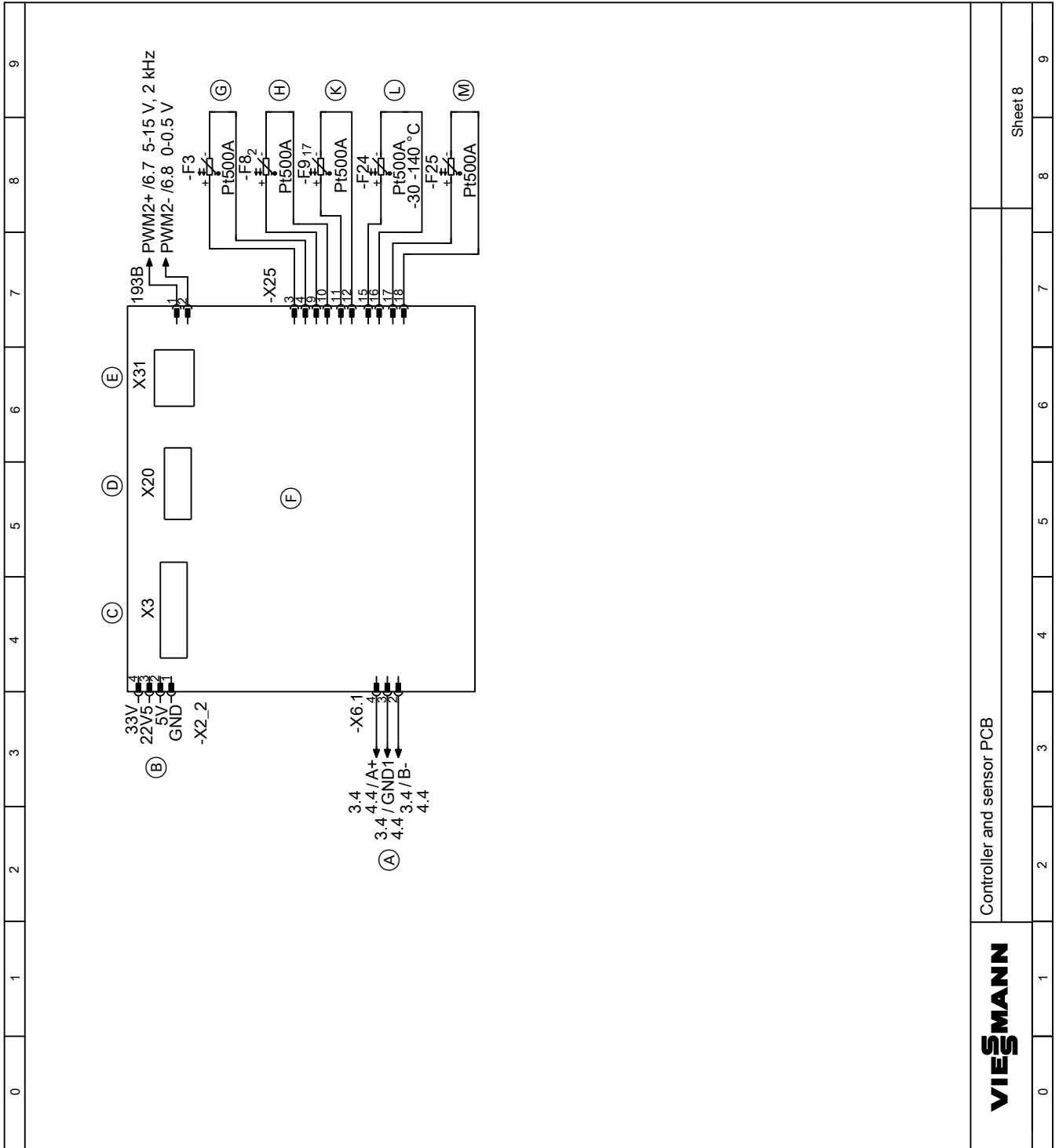


Fig. 8

- (A) Modbus cable to the outdoor unit
- (B) Main PCB power supply
- (C) Ribbon cable to the main PCB and expansion PCB
- (D) Ribbon cable to the programming unit
- (E) Coding card
- (F) Controller and sensor PCB
- (G) Only Vitocal 200-S:
Secondary circuit flow temperature sensor upstream of instantaneous heating water heater (F3)
- (H) Secondary circuit flow temperature sensor (F8)
- (K) Secondary circuit return temperature sensor (F9)
- (L) Only Vitocal 200-S:
Reversible suction gas temperature sensor (F24)
- (M) Only Vitocal 200-S:
Liquid gas temperature sensor (F25)

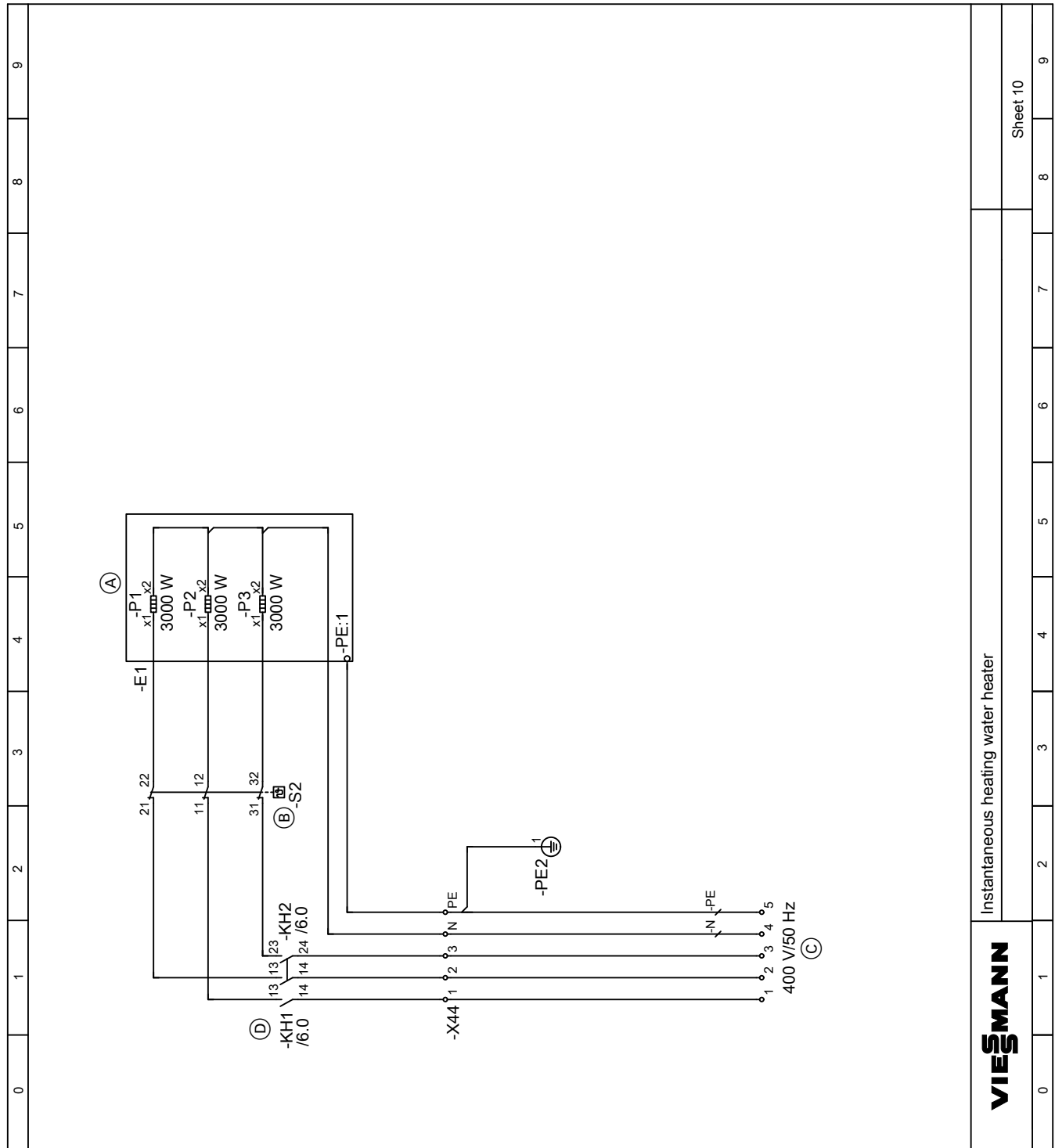


Fig. 9

- (A) Instantaneous heating water heater
- (B) High limit safety cut-out for instantaneous heating water heater
- (C) Instantaneous heating water heater power supply
- (D) Output relay for instantaneous heating water heater:
KH1 Stage 1
KH2 Stage 2

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Instantaneous heating water heater

Sheet 10



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