Versatronik® 581 & 581D
LON Communication Gateway

Document Applicable to:
Versatronik 581 VI/LON P/N 704096
Versatronik 581D VI/LON P/N 704097

Applicable Controls
Viessmann Vitotronic 300 GW5B Single boiler
Viessmann Vitotronic 300 GW6B Single boiler
Viessmann Vitotronic 300 GW6B Cascade
Viessmann Vitotronic 300-K, MW2C (8 B2HA Boiler)

KWE
Technologies
Group

Technical, Installation and Configuration Information

Cautionary Statement

The information presented in this document is only to be used by those familiar with its application and use.

C **US** **LR 102874**

About these instructions

⚠ Take note of all symbols and notations intended to draw attention to potential hazards or important product information. These include "WARNING", "CAUTION" and "IMPORTANT". See below.

⚠ **WARNING**
Indicates an imminently hazardous situation which, if not avoided, could result in death, serious injury or substantial product/property damage.

→ *Warnings draw your attention to the presence of potential hazards or important product information.*

⚠ **CAUTION**
Indicates an imminently hazardous situation which, if not avoided, may result in minor injury or product/property damage.

→ *Cautions draw your attention to the presence of potential hazards or important product information*

🖐 **CAUTION**
Static sensitive components may be damaged by improper handling or work within the control. Ensure all possible measures are taken to eliminate build-up of static electricity.

IMPORTANT

→ *Helpful hints for installation, operation or maintenance which pertains to the product.*

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Important Regulatory and Installation Requirements

Codes
The installation of this unit must be in accordance with local codes.

All electrical wiring is to be done in accordance with the latest edition of CSA C22,1 Part 1 and/or local codes. In the U.S. use the National Electrical Code ANSI/NFPA 70.

The installing contractor must comply with the Standard of Controls and Safety Devices for Automatically-fired Boilers, ANSI/ASME CSD-1 where required by the authority having jurisdiction.

Working on the equipment
The installation, adjustment, service and maintenance of this unit must be done by a licensed professional heating contractor or persons who are qualified and experienced in the installation, service, and maintenance of similar products. There are no user serviceable parts on this control.

Power supply
Install power supply in accordance with the regulation of the authorities having jurisdiction or in absence of such requirements, in accordance with National Codes.

→ *Please carefully read this manual prior to attempting installation. Any warranty is null and void if these instructions are not followed.*

→ *The completeness and functionality of field-supplied electrical controls and components must be verified by those installing the device*

⚠ **WARNING**

More than one live circuit. See wiring diagram in this manual. Turn off power supply to control and damper/blower before servicing. Contact with live electrical components can result in serious injury or death
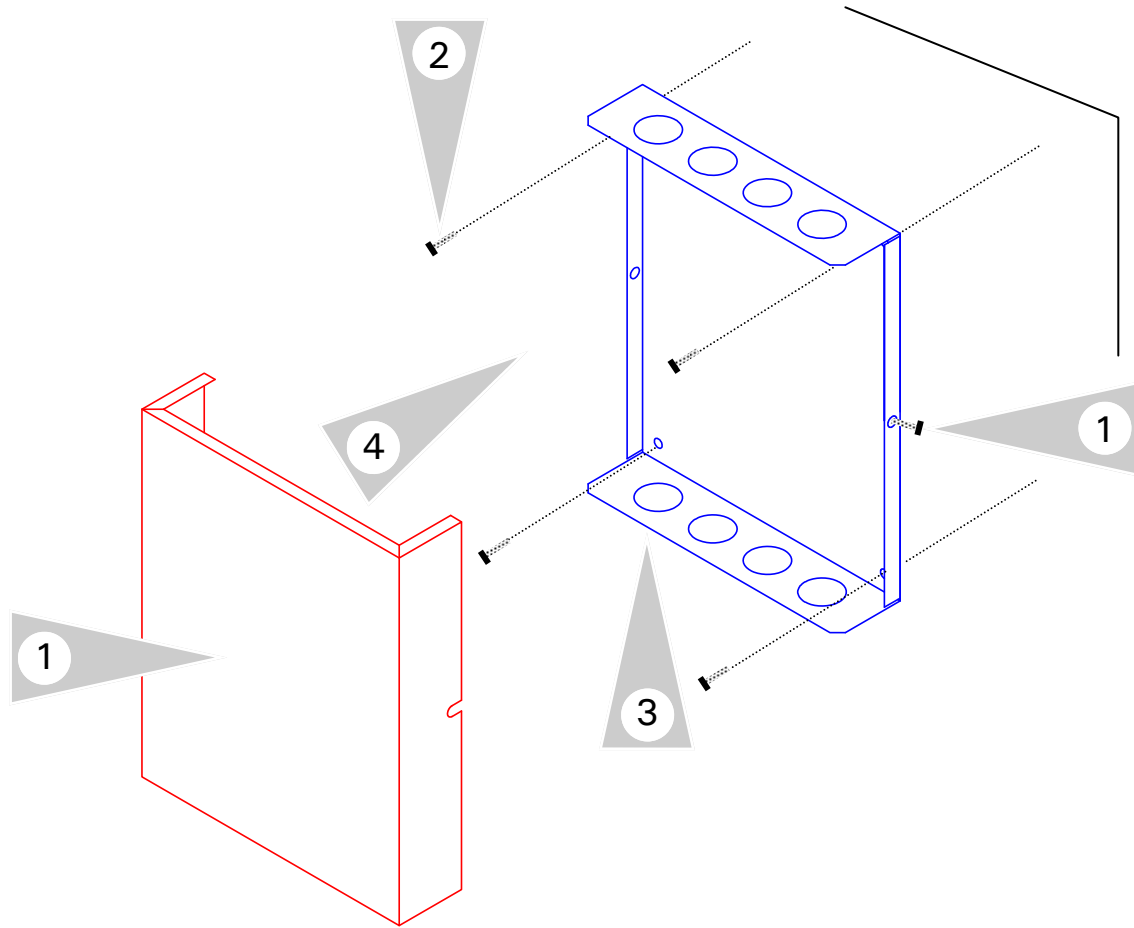
Purpose of Device and Operation

The Versatronik 581 gateway provides a communication translation between applicable controls and DDC systems which are capable of LON communications.

The Versatronik gateway may be either part of a control panel or stand-alone control device.

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Installation

Mounting Versatronik Gateway—120VAC Unit

Mounting Steps

1. Mount Versatronik 581 Gateway in a convenient location near the connected boiler controls control. Remove cover by loosening the two screws on either side of base to release the cover.
2. Fasten base to wall using field-supplied screws/fasteners.
3. Remove knockout and installed wire strain relief or box connector. Removal of remaining knockouts is required to make further connections.
4. Once all of the 120VAC and low voltage connections are complete and verified, reinstall the cover from Step 1.

> ⚠️ **WARNING**
>
> When extending wire there is the possibility of exposure to electromagnetic interference. Avoid running wires beside or near high voltage 120/240 VAC conductors. If proximity to high voltage conductors cannot be avoided, use stranded, twisted pair of shield design wire. Ensure that only one end of the shielding is grounded.

Mounting Versatronik Gateway—24VAC DIN Rail Unit

Mounting Steps

1. Mount Versatronik 581D Gateway onto DIN rail within an enclosure in a convenient location near the boiler controls.
2. Make all the necessary connections including the field-supplied 24VAC power connection.

Connection Overview

1. Control Connection RJ45
2. Paralleled BUS connection
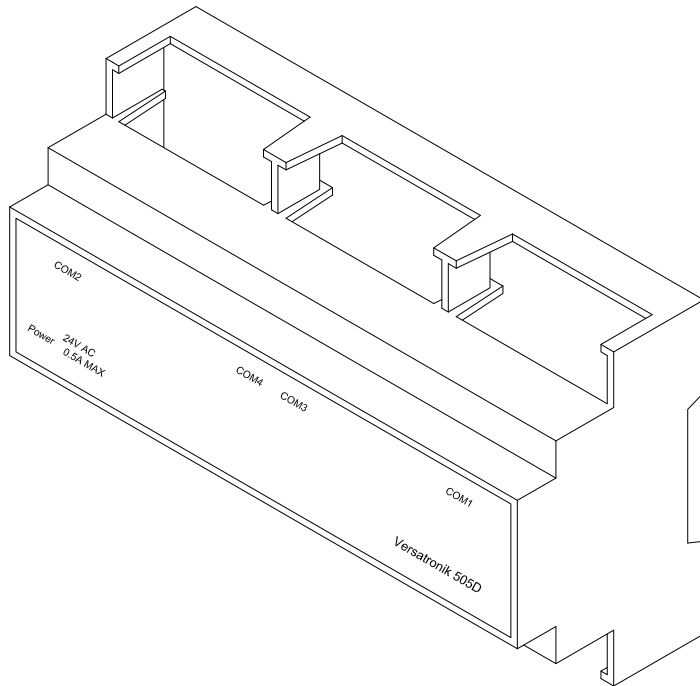3. LON Connection terminals A and B
4. 24VAC Power Connection
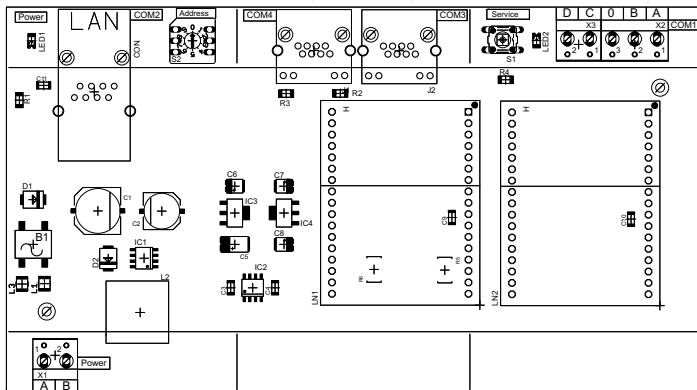
⚠ WARNING

When extending wire there is the possibility of exposure to electromagnetic interference. Avoid running wires beside or near high voltage 120/240 VAC conductors. If proximity to high voltage conductors cannot be avoided, use stranded, twisted pair of shield design wire. Ensure that only one end of the shielding is grounded.
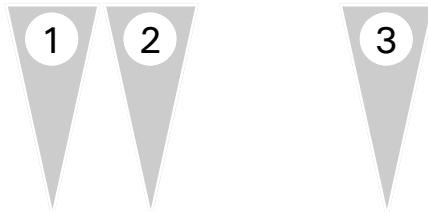
Versatronik 581 Dial Setting Overview

Rotary Dial Setting
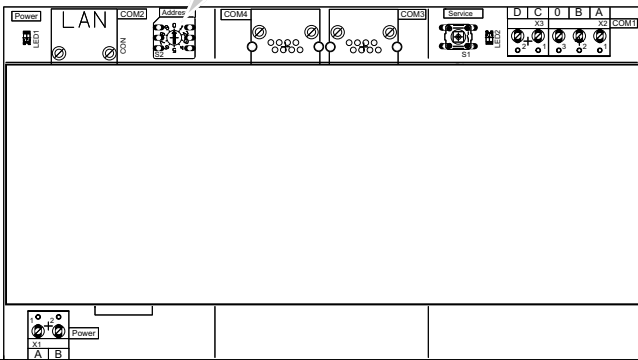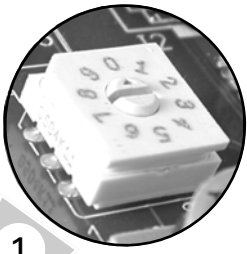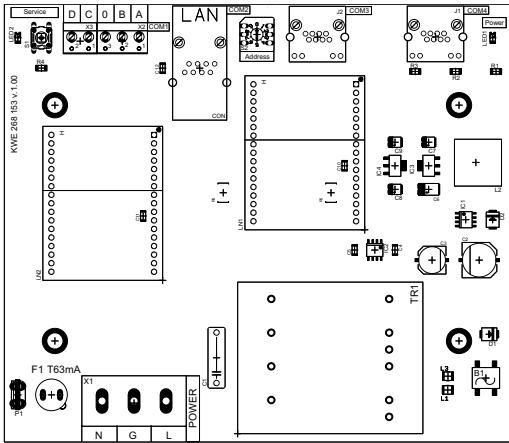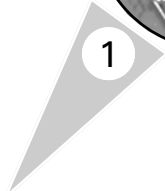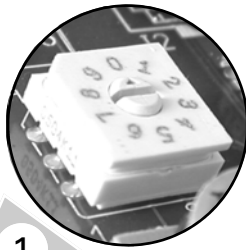
Setting Overview

1. The rotary dial setting on the Versatronik Gateways provides addressing information for systems that may utilize a number of Versatronik Gateways.

   It is not required to make adjustments to the rotary dial setting. It should be left in the factory default position setting of 0.

Rotary Switch Position	Participant Value
0	55
1	56
2	57
3	58
4	59
5	60
6	61
7	62

Connection Overview—120VAC

Communication connections—Vitotronic 300 GW5B or 300 GW6B LON

LON 2-wire BMS connection

120VAC

Connection Overview

Refer to manual specific to boiler control. Ensure necessary LON communication card installed.

1 Control showing location of LON card and its location within.

2 A 3′/91cm CAT-5 cable is supplied with the gateway. The RJ45 is plugged into the control and terminates into the RJ45 socket inside of the Versatronik 581 gateway.

3 Versatronik 581 gateway.

4 Field wiring for LON connection to terminals A and B.

5 Plug-in power cord for 120VAC Versatronik 581 gateways.

KWE P/N 394063 Versatronik 581 and 581D GW5/6 and B2HA LON Gateway V1.1 06/2015 Technical information subject to change without notice

Connection Overview—24VAC

Communication connections—Vitotronic 300 GW5B or 300 GW6B LON

Connection Overview

Refer to manual specific to boiler/system control. Ensure necessary LON communication card installed.

1 Control showing location of LON card and its location within.

2 A 3'/91cm CAT-5 cable is supplied with the gateway. The RJ45 is plugged into the control and terminates into the RJ45 socket inside of the Versatronik 581 gateway.

3 Versatronik 581 gateway.

4 Field wiring for LON connection to terminals A and B.

5 Field-supplied 24VAC power supply for gateway.

LON 2-Wire connection terminals A and B

24VAC

Connection Overview—120VAC

Communication connections—Vitotronic 300 GW6B
(LON communication to GW6B/GW5B/GC1B/GC1 lag controls)

LON 2-wire BMS
Connection

3

2

1

4

120VAC

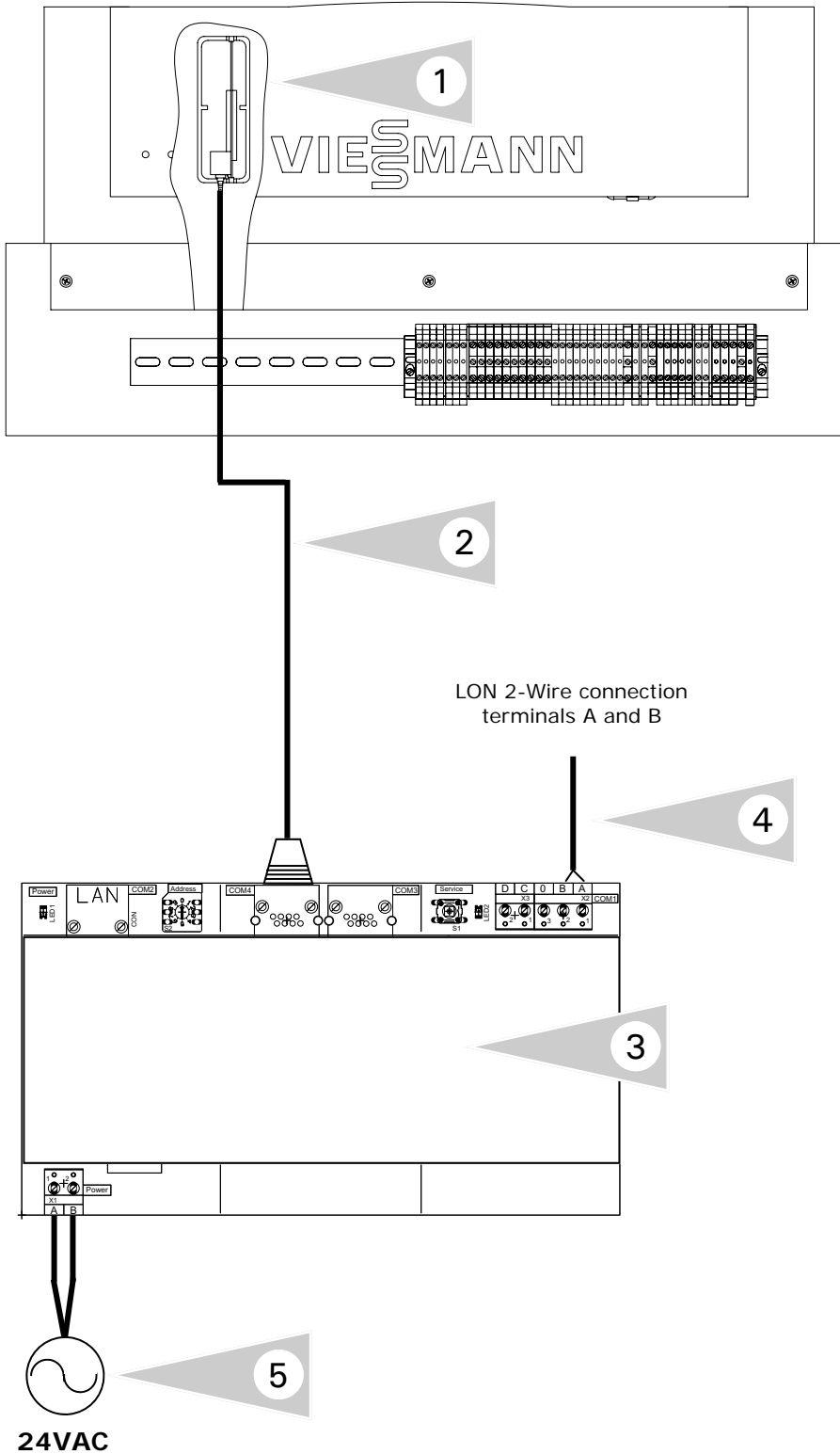### Connection Overview

Refer to manual specific to boiler/ system control. Ensure necessary LON communication card installed.

1 A 3′/91cm CAT-5 cable is supplied with the gateway. The RJ45 is plugged into the control and terminates into the RJ45 socket inside of the Versatronik 581 gateway.
   Vitotronic 300K will need LON card installed.

2 Versatronik 581 gateway.

3 Field wiring for LON connection to terminals A and B.

4 Plug-in power cord for 120VAC Versatronik 581 gateways.

Connection Overview—24VAC

Communication connections—Vitotronic 300 GW6B
(LON communication to GW6B/GW5B/GC1B/GC1 lag controls)
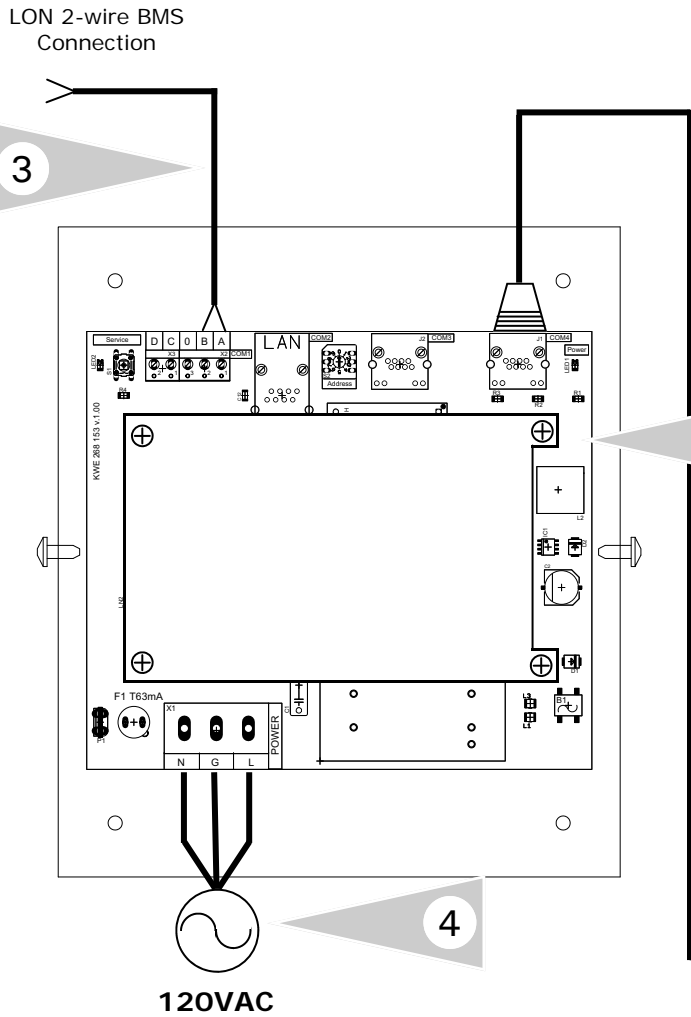
LON 2-Wire connection
terminals A and B

24VAC

Connection Overview

Refer to manual specific to boiler control. Ensure necessary LON communication card installed.

1 A 3′/91cm CAT-5 cable is supplied with the gateway. The RJ45 is plugged into the control and terminates into the RJ45 socket inside of the Versatronik 581 gateway.

2 Versatronik 581 gateway.

3 Field wiring for LON connection to terminals A and B.

4 The RJ45 BACnetIP communication connection plugged into Versatronik 581 gateway.

5 Field-supplied 24VAC power supply for gateway.

Connection Overview—120VAC

Communication connections—Vitotronic 300-K MW2C for Vitodens 200, B2HA

LON 2-wire BMS
Connection

Connection Overview

Refer to manual specific to boiler control. Ensure necessary LON communication card installed.

1   A 3′/91cm CAT-5 cable is supplied with the gateway. The RJ45 is plugged into the control and terminates into the RJ45 socket inside of the Versatronik 581 gateway.
    Communication card required for Vitotronic 300K, MW2C for Vitodens B2HA boilers.

2   Versatronik 581 gateway.

3   Field wiring for LON connection to terminals A and B.

4   Plug-in power cord for 120VAC Versatronik 581 gateways.

120VAC

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Connection Overview—24VAC

Communication connections—Vitotronic 300-K MW2C for Vitodens 200, B2HA

LON 2-Wire connection
terminals A and B

Connection Overview

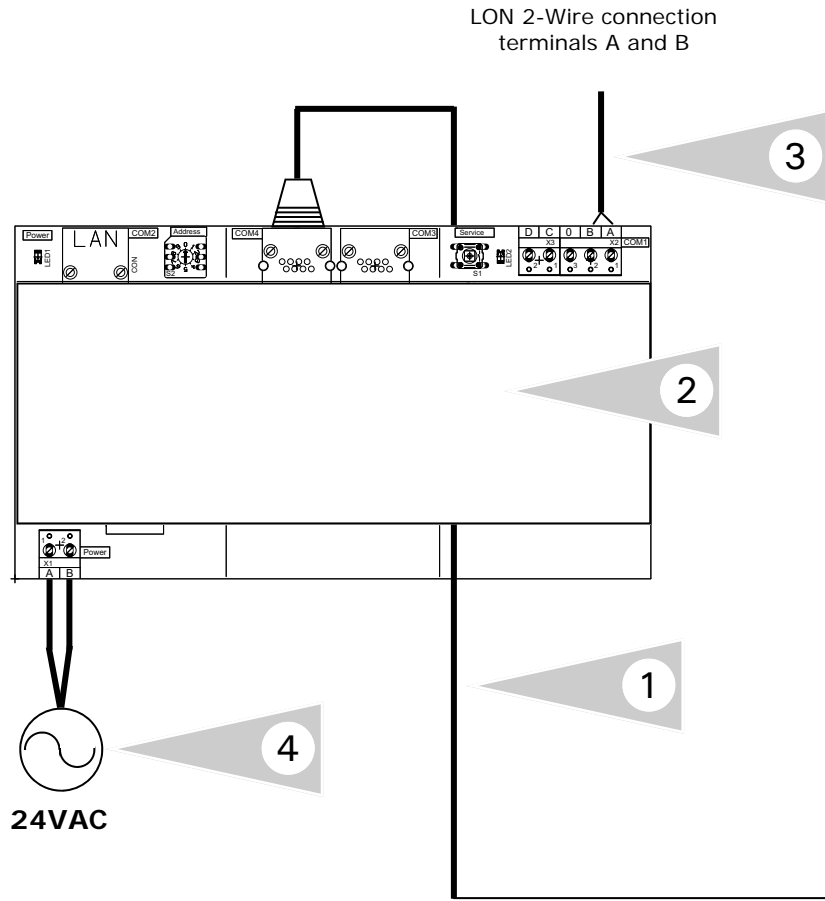Refer to manual specific to boiler control. Ensure necessary LON communication card installed.

1 A 3'/91cm CAT-5 cable is supplied with the gateway. The RJ45 is plugged into the control and terminates into the RJ45 socket inside of the Versatronik 581 gateway.

   Communication card required for Vitotronic 300K, MW2C for Vitodens B2HA boilers.

2 Versatronik 581 gateway.

3 Field wiring for LON connection to terminals A and B.

4 Field-supplied 24VAC power supply for gateway.

24VAC
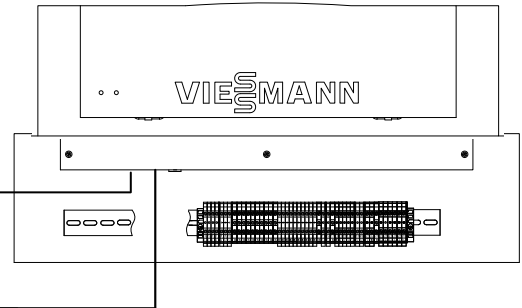
Configuration of Gateway

Pre-configuration
Preconfigured nciNR2Config register: nciNR2Config is no longer a user accessible register. This gateway is, by default, configured for 8 Vitotronic 300, GW6B boiler controls and 3 zones. If a boiler reports 0 degrees for the boiler water temperature, all other points pertaining to that boiler will be skipped. This speeds up the refresh rate for all available points, as the gateway isn't polling information from a boiler that isn't there.

Applications which use the Viessmann Vitotronic 300, GW6B as a master cascade control will need to have the control to be addressed as LON 1 at coding address 77 for the "master or lead" boiler. Subsequent boiler LON addresses should be set from 2 to 8.

Vitodens 200, B2HA
This gateway has two configuration variables, *nviCasConfig* which programs a Cascade Address of 9 for the Vitotronic 300-K, MW2C cascade control. The MW2C must also be set to LON address 77 to a value of 9. This allows a full system of boilers to be set from 77 LON address 1 through 8 for the boilers. This assumes that the boiler communication is via LON and not KMK.

If KMK communication between the boilers and Vitotronic 300-K, MW2C exists, the *nviCommConfig* must be set to a value of 1. The information that is available via KMK is less than it would be if LON were used.

Gateway Features Overview

Service LED
The service LED toggles according to how much information is being exchanged between the gateway and the boilers, it is **not** affected by the communication between the gateway and the BMS. In a single boiler system, the LED will toggle very slowly while retrieving boiler information, but will speed up when retrieving cascade information. In a multi-boiler system, the LED will have a more uniform blinking rate.

Timeout Feature
If a boiler doesn't report any information for five minutes, the gateway will assuming the boiler is offline, and will report a value of zero for all the points associated with that boiler. The gateway will then skip over that boiler until it reports a non-zero boiler water temperature. This is only applicable for LON communication between the boilers, not KMK communication.

Fault Codes (GW6B)
The lead boiler will report whenever any lag boiler has a fault. The gateway will not report these faults to the BMS. By doing this, it will prevent the lead boiler from looking like it is experiencing a fault when it's actually a lag boiler that has the current fault

The gateway will however report the fault code for the boiler experiencing an issue under the corresponding boiler fault point. To clarify, the boiler 1 fault point will only display faults being experienced by the lead boiler (boiler 1).

Someone on site may get confused if the physical control is indicating a fault, and the gateway isn't reporting it.

LON Points Overview—Writable Input Variables

Configuration and Input Variables
Values which can be written to the Versatronik 581 VI/LON Gateway

Note:
Temperature values only possible with specific
installed sensors based on particular installation

Point	Point Description
nviCommConfig	0 (default)=LON communication for B2HA boilers 1=KMK communication for B2HA boilers
nviCasConfig	0 (default)=Cascade control at LON address 1 Vitotronic 300 GW6B (Lead) 1=Cascade control at LON address 9 for Vitotronic 300-K, MW2C
nviDHWSet	DHW Set Point Temperature writeable
nviHC1SupST	Heating Circuit 1 Supply Set Point (LLH/Common Supply Set Point)
nviHC1Shift	Heating Circuit 1 Shift setting for outdoor reset heating curve
nviHC1Slope	Heating Circuit 1 Slope setting for outdoor reset heating curve
nviHC1RoomN	Heating Circuit 1 Room Normal setting (Sun setting)
nviHC1RoomR	Heating Circuit 1 Room Reduced setting (Moon setting)
nviHC2SupST	Heating Circuit 2 Supply Set Point (Mixing Valve 2)
nviHC3SupST	Heating Circuit 3 Supply Set Point (Mixing Valve 3)

Zone points have changed from "CZ" to "HC". Common zone is now heating circuit to better reflect the language used on the new controls.

LON Points Overview—Readable Output Variables

Output Variables
Values which can be read from the Versatronik 581 VI/LON Gateway

Note:
Temperature values only possible with specific
installed sensors based on particular installation

Point	Point Description
nvoOutDTemp	Outdoor Temperature
nvoHC1SupST	Heating Circuit 1 Supply Temperature Set Point
nvoHC1SupAT	Heating Circuit 1 Actual Supply Temperature (Sensor 3/2)
nvoHC2SupST	Heating Circuit 2 Supply Temperature Set Point
nvoHC2SupAT	Heating Circuit 2 Actual Supply Temperature (Sensor 2M2)
nvoHC3SupST	Heating Circuit 3 Supply Temperature Set Point
nvoHC3SupAT	Heating Circuit 3 Actual Supply Temperature (Sensor 2M3)
nvoHC1Slope	Heating Circuit 1 Slope
nvoHC1Shift	Heating Circuit 1 Shift
nvoHC1RoomR	Heating Circuit 1 Room Reduced (Moon setting)
nvoHC1RoomN	Heating Circuit 1 Room Normal (Sun setting)
nvoHC1RetT	Heating Circuit 1 Return Temperature (17A sensor)
nvoDHWSet	DHW Set Point Temperature
nvoDHWAct	DHW Actual Tank Temperature
nvoB1Temp	Boiler 1 Temperature
nvoB1Status_value	Boiler 1 burner modulation %
nvoB1Status_state	Boiler 1 pump status (29 output) (1=ON, 0=OFF) No pump status with KMK communication
nvoB1FlueGT	Boiler 1 Flue gas temperature sensor (if installed)
nvoB1FaultCode	Boiler 1 current fault code; Will display actual fault code for LON communication, but for KMK, a 1 will be seen for fault and 0 for no fault.
nvoB2Temp	Boiler 2 Temperature
nvoB2Status_value	Boiler 2 burner modulation %
nvoB2Status_state	Boiler 2 pump status (29 output) (1=ON, 0=OFF) No pump status with KMK communication
nvoB2FlueGT	Boiler 2 Flue gas temperature sensor (if installed)
nvoB2FaultCode	Boiler 2 current fault code; Will display actual fault code for LON communication, but for KMK, a 1 will be seen for fault and 0 for no fault.
nvoB3Temp	Boiler 3 Temperature
nvoB3Status_value	Boiler 3 burner modulation %
nvoB3Status_state	Boiler 3 pump status (29 output) (1=ON, 0=OFF) No pump status with KMK communication
nvoB3FlueGT	Boiler 3 Flue gas temperature sensor (if installed)
nvoB3FaultCode	Boiler 3 current fault code; Will display actual fault code for LON communication, but for KMK, a 1 will be seen for fault and 0 for no fault.

Notes:
nvoBxStatus_value reflects burner modulation.
nvoBxStatus_state indicates if the boiler pump is engaged.

LON Points Overview—Readable Output Variables Continued

Output Variables
Values which can be read from the Versatronik 581 VI/LON Gateway

Note:
Temperature values only possible with specific
installed sensors based on particular installation

Point	Point Description
nvoB4Temp	Boiler 4 Temperature
nvoB4Status_value	Boiler 4 burner modulation %
nvoB4Status_state	Boiler 4 pump status (29 output) (1=ON, 0=OFF) No pump status with KMK communication
nvoB4FlueGT	Boiler 4 Flue gas temperature sensor (if installed)
nvoB4FaultCode	Boiler 4 current fault code; Will display actual fault code for LON communication, but for KMK, a 1 will be seen for fault and 0 for no fault.
nvoB5Temp	Boiler 5 Temperature
nvoB5Status_value	Boiler 5 burner modulation %
nvoB5Status_state	Boiler 5 pump status (29 output) (1=ON, 0=OFF) No pump status with KMK communication
nvoB5FlueGT	Boiler 5 Flue gas temperature sensor (if installed)
nvoB5FaultCode	Boiler 5 current fault code; Will display actual fault code for LON communication, but for KMK, a 1 will be seen for fault and 0 for no fault.
nvoB6Temp	Boiler 6 Temperature
nvoB6Status_value	Boiler 6 burner modulation %
nvoB6Status_state	Boiler 6 pump status (29 output) (1=ON, 0=OFF) No pump status with KMK communication
nvoB6FlueGT	Boiler 6 Flue gas temperature sensor (if installed)
nvoB6FaultCode	Boiler 6 current fault code; Will display actual fault code for LON communication, but for KMK, a 1 will be seen for fault and 0 for no fault.
nvoB7Temp	Boiler 7 Temperature
nvoB7Status_value	Boiler 7 burner modulation %
nvoB7Status_state	Boiler 7 pump status (29 output) (1=ON, 0=OFF) No pump status with KMK communication
nvoB7FlueGT	Boiler 7 Flue gas temperature sensor (if installed)
nvoB7FaultCode	Boiler 7 current fault code; Will display actual fault code for LON communication, but for KMK, a 1 will be seen for fault and 0 for no fault.
nvoB8Temp	Boiler 8 Temperature
nvoB8Status_value	Boiler 8 burner modulation %
nvoB8Status_state	Boiler 8 pump status (29 output) (1=ON, 0=OFF) No pump status with KMK communication
nvoB8FlueGT	Boiler 8 Flue gas temperature sensor (if installed)
nvoB8FaultCode	Boiler 8 current fault code; Will display actual fault code for LON communication, but for KMK, a 1 will be seen for fault and 0 for no fault.

Notes:

nvoBxStatus_value reflects burner modulation.
nvoBxStatus_state indicates if the boiler pump is engaged.

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GW5B/GW6B Single Boiler and GW6B Cascade Relay States

Values which can be read from the Versatronik 581 VI/LON Gateway. Limitations exist with KMK communication between boilers and cascade control.

Point	Point Description
nvoRelayState_bit0	bit 2^0 : DHW tank loading pump (Pump connection output 21)
nvoRelayState_bit1	bit 2^1 : Re-circulation pump (Pump connection output 28)
nvoRelayState_bit2	bit 2^2 : Heating circuit pump 1 (Pump connection 20A1/M1)
nvoRelayState_bit3	bit 2^3 : Heating circuit pump 2 (Pump connection 20M2)
nvoRelayState_bit4	bit 2^4 : Heating circuit pump 3 (Pump connection 20M3
nvoRelayState_bit5	bit 2^5 : Night-time contact HKP 1
nvoRelayState_bit6	bit 2^6 : Night-time contact HKP 2
nvoRelayState_bit7	bit 2^7 : Night-time contact HKP 3
nvoRelayState_bit8	bit 2^8 : Supply pump
nvoRelayState_bit9	bit 2^9 : Primary pump heat exchanger set for DHW tank loading
	bit 2^9 : DHW tank pump
nvoRelayState_bit10	bit 2^{10}: Boiler circuit and common supply pump (Pump 29)
	bit 2^{10}: Internal Pump
nvoRelayState_bit11	bit 2^{11}: Shunt pump
	bit 2^{11}: Diverting valve in space heating position
nvoRelayState_bit12	bit 2^{12}: Flue gas heat exchanger pump
nvoRelayState_bit13	bit 2^{13}: ThermControl switching contact
	bit 2^{13}: Diverting valve in DHW position
nvoRelayState_bit14	bit 2^{14}: Burner 1st stage
nvoRelayState_bit15	bit 2^{15}: Burner fault
	bit 2^{15}: Compiled fault

Fault Codes

Appendix A—Fault Codes
Error codes for Viessmann control units based on controls/equipment installed

Fault Code (hex)	Fault Code (Dec)	Description
00	00	System without fault
0F	15	Perform maintenance check-up
10	16	Short circuit, outdoor temperature sensor
18	24	Interruption, outdoor temperature sensor
20	32	Short circuit, supply temperature sensor HC1/system
28	40	Interruption, supply temperature sensor HC1/system
30	48	Short circuit, boiler water temperature sensor
38	56	Interruption, boiler water temperature sensor
40	64	Short circuit, supply temperature sensor heating circuit 2
41	65	Short circuit, return temperature sensor heating circuit 2
44	68	Short circuit, supply temperature sensor heating circuit 3
45	69	Short circuit, return temperature sensor heating circuit 3
48	72	Interruption, supply temperature sensor heating circuit 2
49	73	Interruption, return temperature sensor heating circuit 2
4C	76	Interruption, supply temperature sensor heating circuit 3
4d	77	Interruption, return temperature sensor heating circuit 3
50	80	Short circuit, DHW tank temperature sensor
51	81	Short circuit, DHW tank temperature sensor 2
58	88	Interruption, DHW tank temperature sensor
59	89	Interruption, DHW tank temperature sensor 2
60	96	Short circuit, return temperature sensor 17
68	104	Interruption, return temperature sensor 17
70	112	Short circuit, supply/return temperature sensor 17B
78	120	Interruption, supply/return temperature sensor 17B
92	146	Solar: collector temperature short circuit
93	147	Solar: collector return temperature short circuit
94	148	Solar: collector DHW tank temperature sensor short circuit
9A	154	Solar: collector temperature sensor open circuit
9B	155	Solar collector return temperature sensor open circuit
9C	156	Solar: DHW tank temperature sensor open circuit
9F	159	Solar: general fault message
A7	167	Fault control unit wireless clock module
AE	174	Internal fault mixing valve
AF	175	Internal fault mixing valve
b0	176	Short circuit, flue gas temperature sensor
b1	177	Communication fault, programming unit (internal)
b4	180	Internal fault
b5	181	Internal fault
b6	182	Internal fault, invalid hardware recognition
b7	183	Internal fault, boiler protection coding card
b8	184	Interruption, flue gas temperature sensor
bA	186	Fault, mixing valve module (KM-BUS)
bC	188	Fault, Vitotrol heating circuit 1 (KM-BUS)
bd	186	Fault, Vitotrol heating circuit 2 (KM-BUS)
bE	190	Fault, Vitotrol heating circuit 3 (KM-BUS)
C1	193	External fault indication, boiler
C2	194	Communication fault solar control unit (KM-BUS)

Appendix A—Fault Codes Continued

Error codes for Viessmann control units based on controls/equipment installed

| Fault Code (hex)	Fault Code (Dec)	Description
C5	197	Fault, speed controlled pump heating circuit 1 (KM-BUS)
C6	198	Fault, speed controlled pump heating circuit 2 (KM-BUS)
C7	199	Fault, speed controlled pump heating circuit 3 (KM-BUS)
C8	200	Fault, water level control
C9	201	Fault, maximum pressure
CA	202	Fault, minimum pressure/maximum pressure 2
Cb	203	Fault, maximum pressure 2
CC	204	Reserved, external periphery
Cd	205	Communication fault, Vitocom 300 (KM-BUS)
CE	206	Communication fault, fault indicator module (KM-BUS)
CF	207	Communication fault: wrong LON module
d1	209	Burner fault, boiler
d4	212	Fixed high limit fault, boiler
d5	213	Cascade: boiler is not responding
d6	214	External fault 1, plug-in adaptor
d7	215	External fault 2, plug-in adaptor
d8	216	External fault 3, plug-in adaptor
dA	218	Short circuit, room temperature sensor heating circuit 1
db	219	Short circuit, room temperature sensor heating circuit 2
dC	220	Short circuit, room temperature sensor heating circuit 3
dd	221	Interruption, room temperature sensor heating circuit 1
dE	222	Interruption, room temperature sensor heating circuit 2
dF	223	Interruption, room temperature sensor heating circuit 3
E0	224	Fault, external participant/device connected to LON
E4	228	Fault power supply voltage
E5	229	Internal fault combustion control unit
E6	230	Flue gas/air supply system blocked
F0	240	Communication fault combustion control unit
F1	241	Flue gas temperature limit has tripped
F2	242	Temperature limit has tripped
F3	243	Flame signal is present at burner start
F4	244	Flame signal is not present
F5	245	Air pressure switch not open for burner start
F6	246	Gas pressure switch not open for burner start
F7	247	Air pressure sensor short circuit or offset value outside of tolerances
F8	248	Fuel valve closure delayed
F9	249	Blower speed too low at burner start
FA	250	Blower speed too high at burner start
FC	252	Control of modulation valve defective
FD	253	Fault combustion control unit
FE	254	Coding plug defective or wrong EMV error
FF	255	Internal fault

Additional Alarm/Fault Information

Viessmann controls show fault codes in hexadecimal format to conserve screen space on the user interface of the boiler and system controls. The Versatronik 581 gateway uses a SNVT_count variable which is usually displayed in decimal format.

The base-format in which this fault can be displayed depends on your BMS software. This example shows how to display this fault code in hexadecimal, and Text format in Niagara AX.

To display in hex, you can use the KitControl -> Util "Numeric Bit And" object's mask input.

To display the equivalent fault text value, you can use the KitControl -> Conversion "Numeric To Enum" object and type out the enum range for all Viessmann error codes.
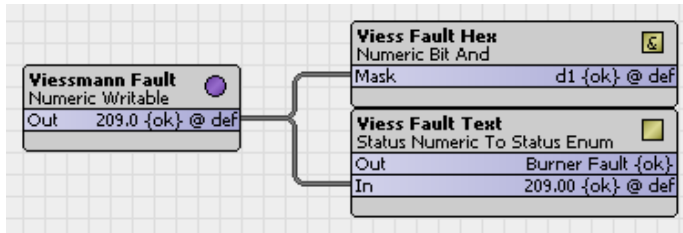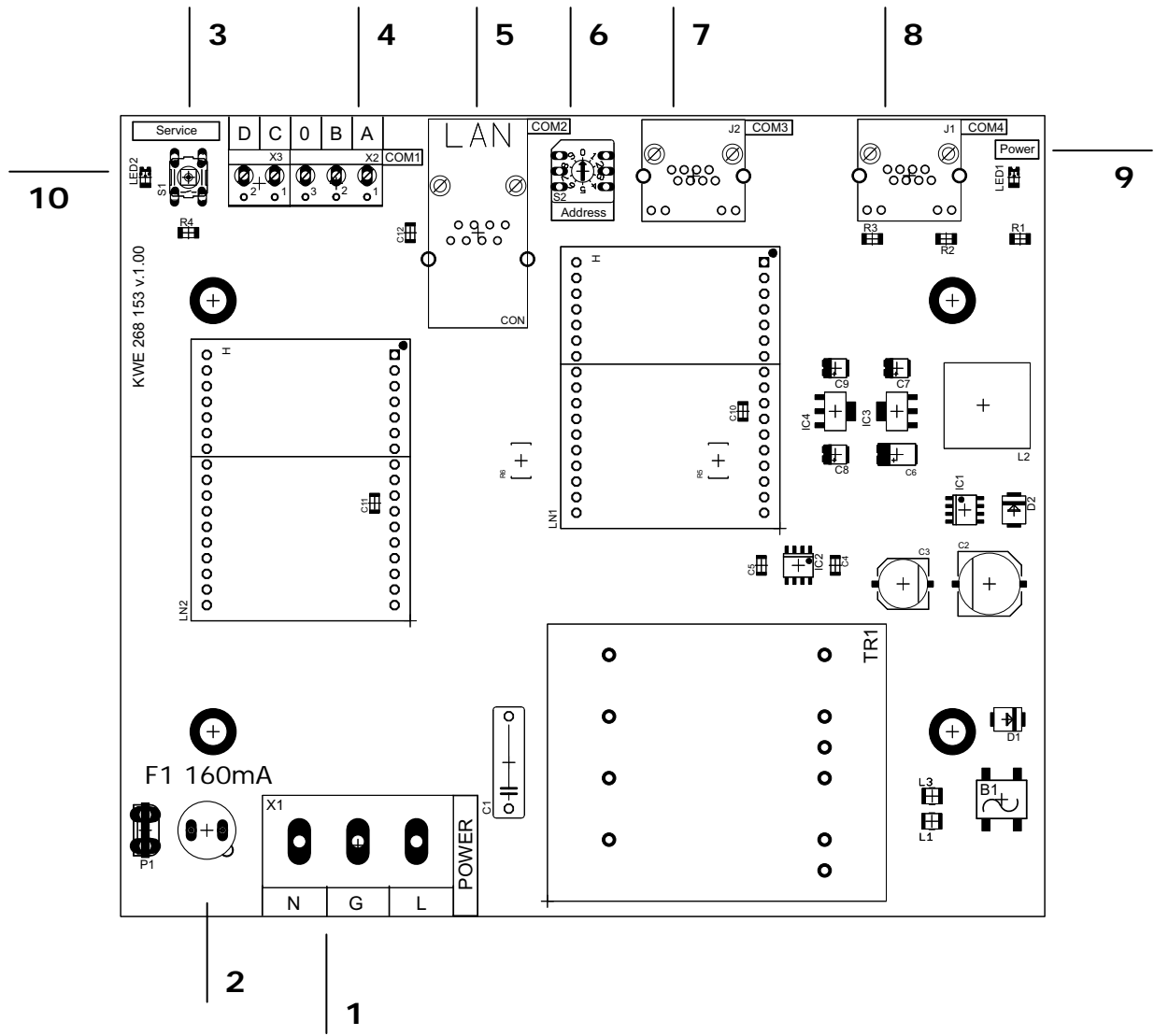

These values can now be displayed on a px webpage by pointing a Bound Label to the appropriate slot values.

Fault Code: d1 (Burner Fault)

NOTE!
Fault codes come in as decimal numbers (base 10) and need to be converted to hexadecimal (base 16) to be a proper representation of the Viessmann fault code.

Technical Information—120VAC

PCB Identifiers

1	120VAC Power Supply Connections
2	Fuse
3	Service Button
4	LON Connections to BMS
5	RJ45 Connection to BMS BACnet
6	Addressing selector for multiple modules
7	COM3 for multiple BUS connections
8	COM4 RJ45 Connection to control
9	Power LED indicator
10	Service LED

Specifications

Voltage Requirements	120VAC
Fuse Rating	160mA Time Delay
Power	4VA
Communication Connections	Supplied cable between devices

⚠ **CAUTION**

Static sensitive components may be damaged by improper handling or work within the control. Ensure all possible measures are taken to eliminate build-up of static electricity.

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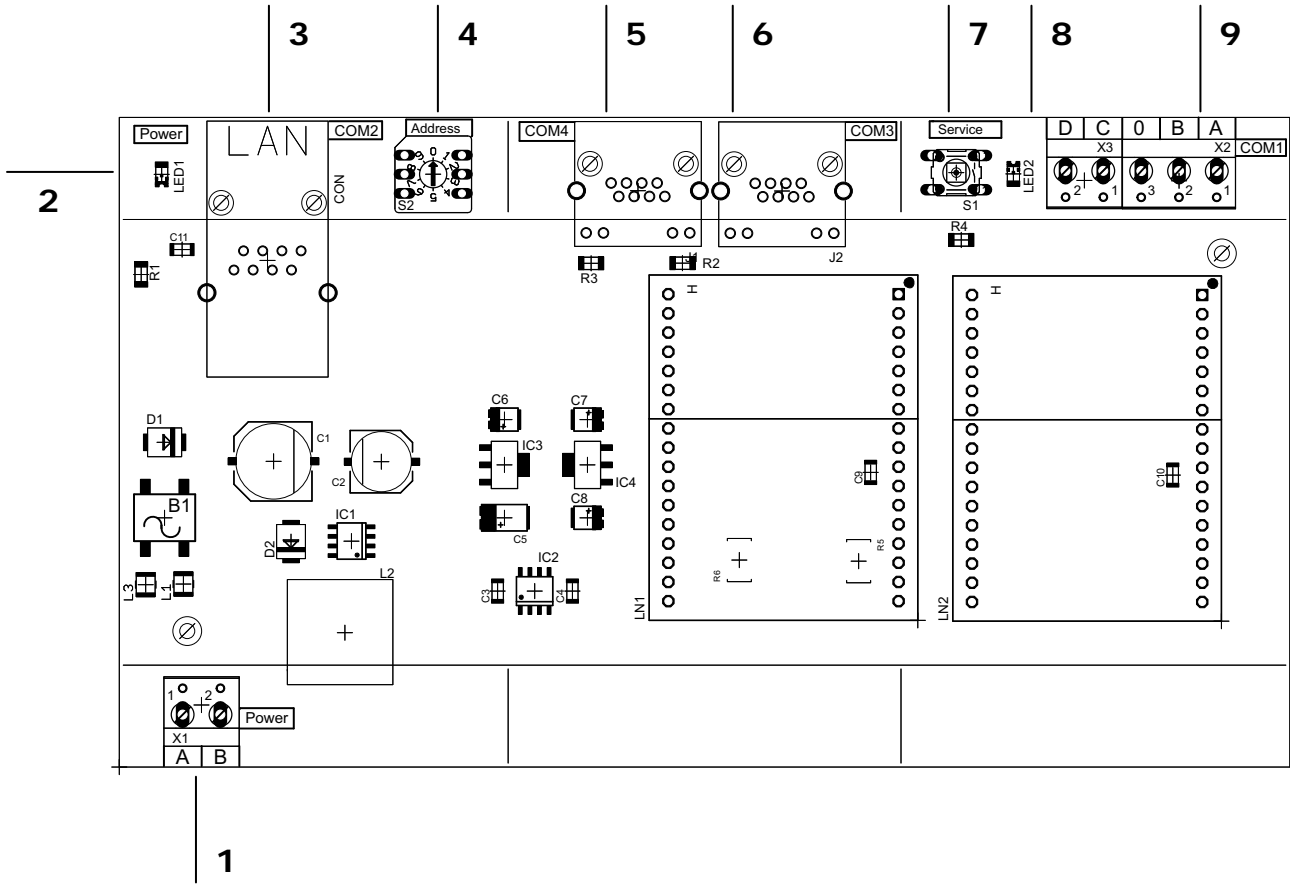
PCB Identifiers

1	24VAC Power Supply Connections
2	Power LED indicator
3	BACnet RJ45 BMS Connection
4	Addressing dial for multiple units
5	COM4 RJ45 Connection to control
6	COM3 for multiple BUS connections
7	Service button
8	Service LED
9	LON Connections to BMS

Specifications

Voltage Requirements	24VAC
Fuse Rating	N/A
Power	4VA
Communication Connections	Supplied cable between devices

⚠ CAUTION

Static sensitive components may be damaged by improper handling or work within the control. Ensure all possible measures are taken to eliminate build-up of static electricity.

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KWE Technologies Group
750 McMurray Road
Waterloo, Ontario, Canada
N2V 2G5
Tel: (519) 747-5042
Fax: (519) 747-4448
www.kwe-tech.com
info@kwe-tech.com