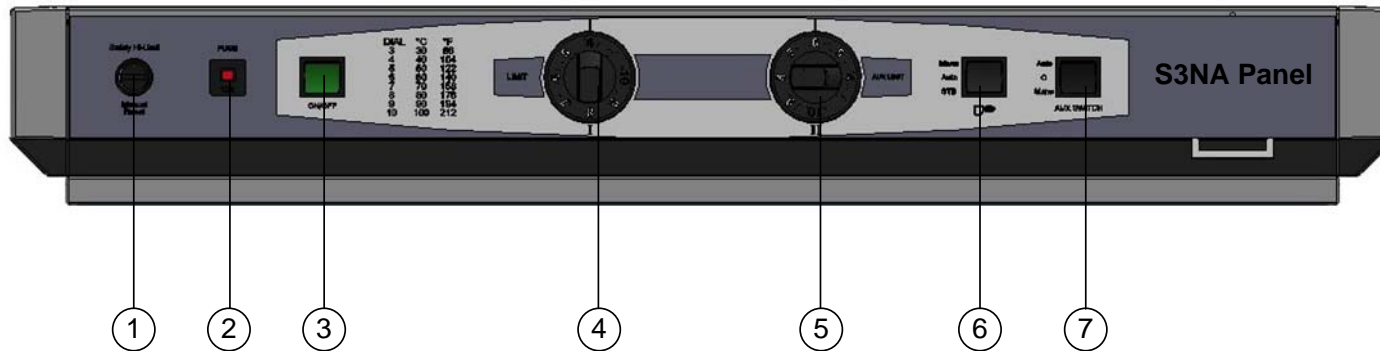


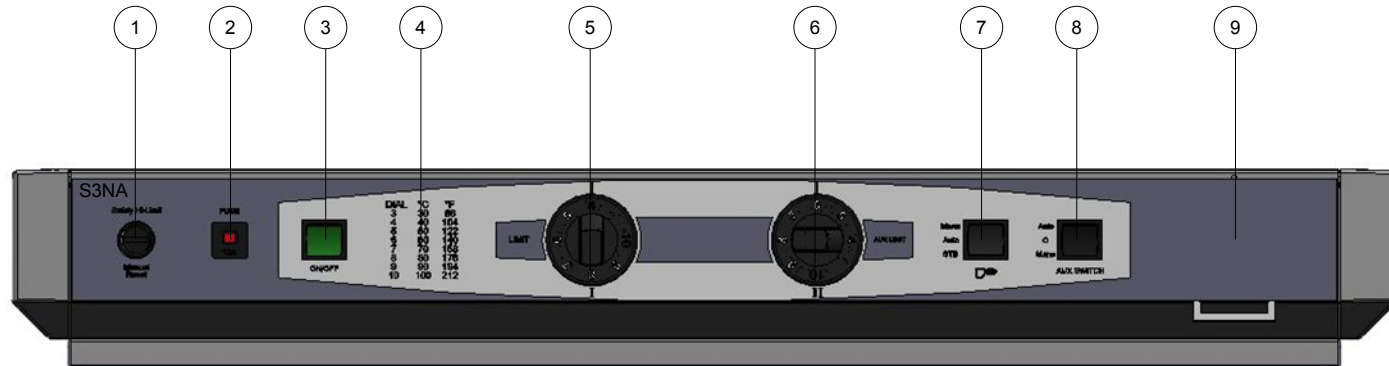
GT Series Main Boiler Control Components Part Numbers



S3NA Panel Main Components		
Item	Description	DDT Part #
1	Safety Hi Limit (MR) 120°C [248°F]	9536 5605
2	Breaker 10A	9534 0286
3	Illuminated ON/OFF Main switch	9532 5027
4	Operating Limit 40-100°C [104-212°F]	9536 5604
5	2nd Stage Limit 40-100°C [104-212°F]	9536 5604
6	Man/Auto/STB switch	9532 5362
7	Aux switch (non safety)	9532 5050

S2NA =	Used on GT120-220 Series boilers only - see GT 120-220 parts section
S3NA =	Used on GT330-430-530 Series boiler only

**De Dietrich Cast Iron Boiler Temperature Controller Model S3NA (standard version)
OVERVIEW OF COMPONENTS**



- ① Safety Hi-Limit (Manual Reset) Fixed Setting 120°C [248°F]
- ② Panel fuse protection (resettable-breaker) 250v 10A rated
- ③ Main ON/OFF Switch
- ④ Operating limits dial conversion
- ⑤ Limit adjustable 40-100°C [104-212°F]
- ⑥ Aux Limit adjustable 40-100°C [104-212°F] optional usage, for 2 stage control (L-H-L) or additional operating limit, additional relay required not provided
- ⑦ Man/Auto/STB 3 position operating switch:
Man = Local panel operation
Auto = Remote control operation – separate operating control required.
STB = Testing Safety limit function
- ⑧ Aux Switch – Optional usage (not part of safety circuit) consult factory for appropriate use and applications.
- ⑨ Provisional panel knockout for optional digital control offering (consult factory for availability)



WARNING – ATTENTION:



All replacement and field wiring min 18awg. Type TEW or 1015 CSA/UL approved.

It is the sole responsibility of the installer/owner that the controls are operating correctly

Wiring mistake can lead to personal injury (including death) or property damage. Mark all wires when prior to servicing or replacing wires or components.

All water piping shall be arranged to avoid spray or ingestion of water on control

Do not operate control if ingested or damaged by water. Do not attempt to repair, lockout and tag equipment replace control immediately.

Drawing Template [0]

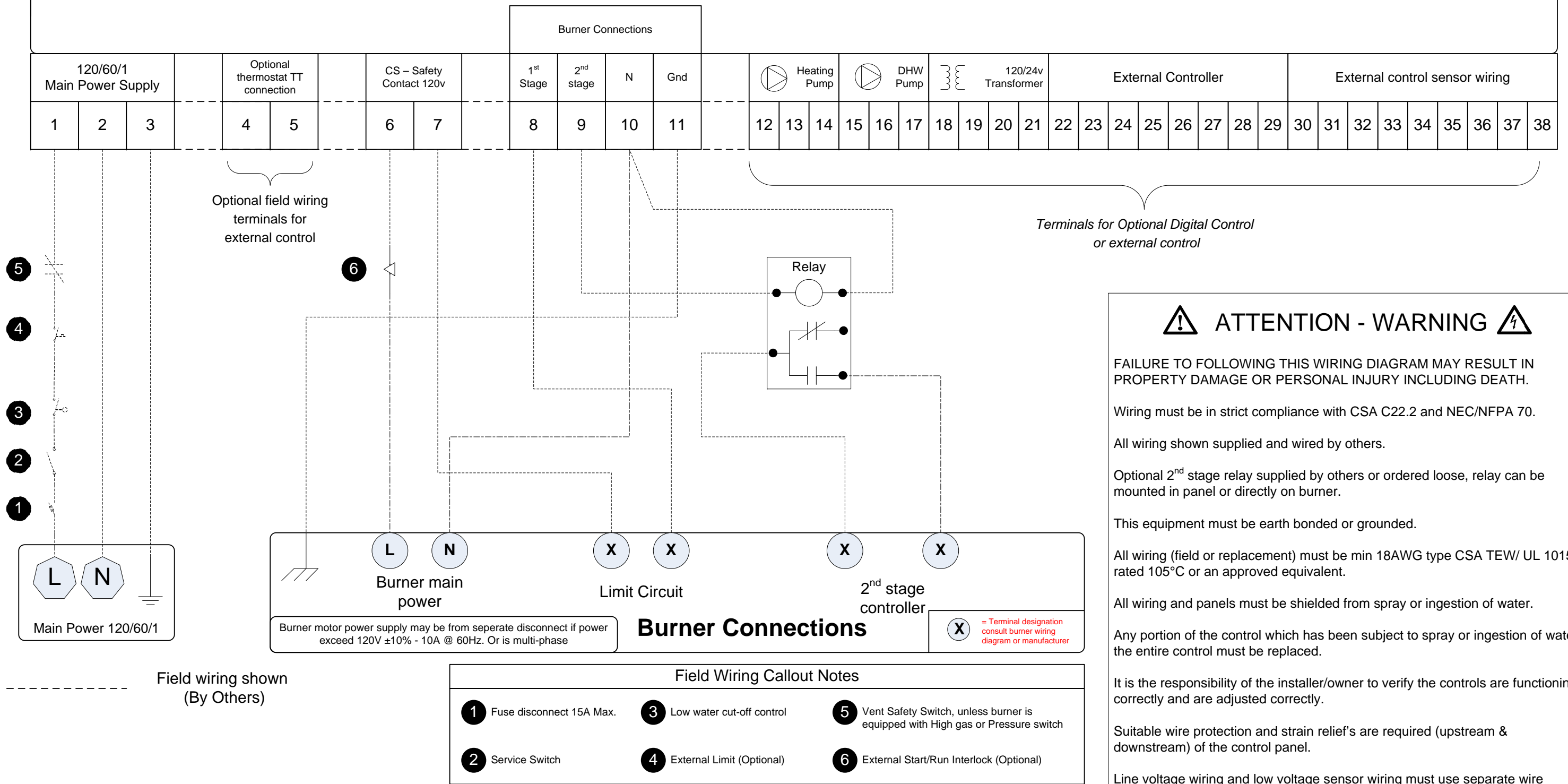


DDR Americas Inc.
1090 Fountain Street North, Unit 10 & 11
Cambridge, Ontario N3E 1A3 – Canada
Tel: 1.800.943.6275 Fax: 519.650.1709
Website: www.dedietrichboilers.com

Revisions			Description	Standard De Dietrich GT 330A-430A-530A Series cast iron boiler temperature controller S3NA Panel			
Date	Description	Initial		Creator	Tolerances ±	Material	File Name
01/05/09	ADDED PANEL MODEL #	CJH		Craig H.	none	none	4-343-S3V-001
					Scale	File Name	4-343-S3V-001
					Units	Date [mm/dd/yy]	08/12/09

S2NA (ME50) or S3NA (MD5) Temperature control panel (FIELD WIRING DIAGRAM)

Internal wiring by DDR-De Dietrich factory



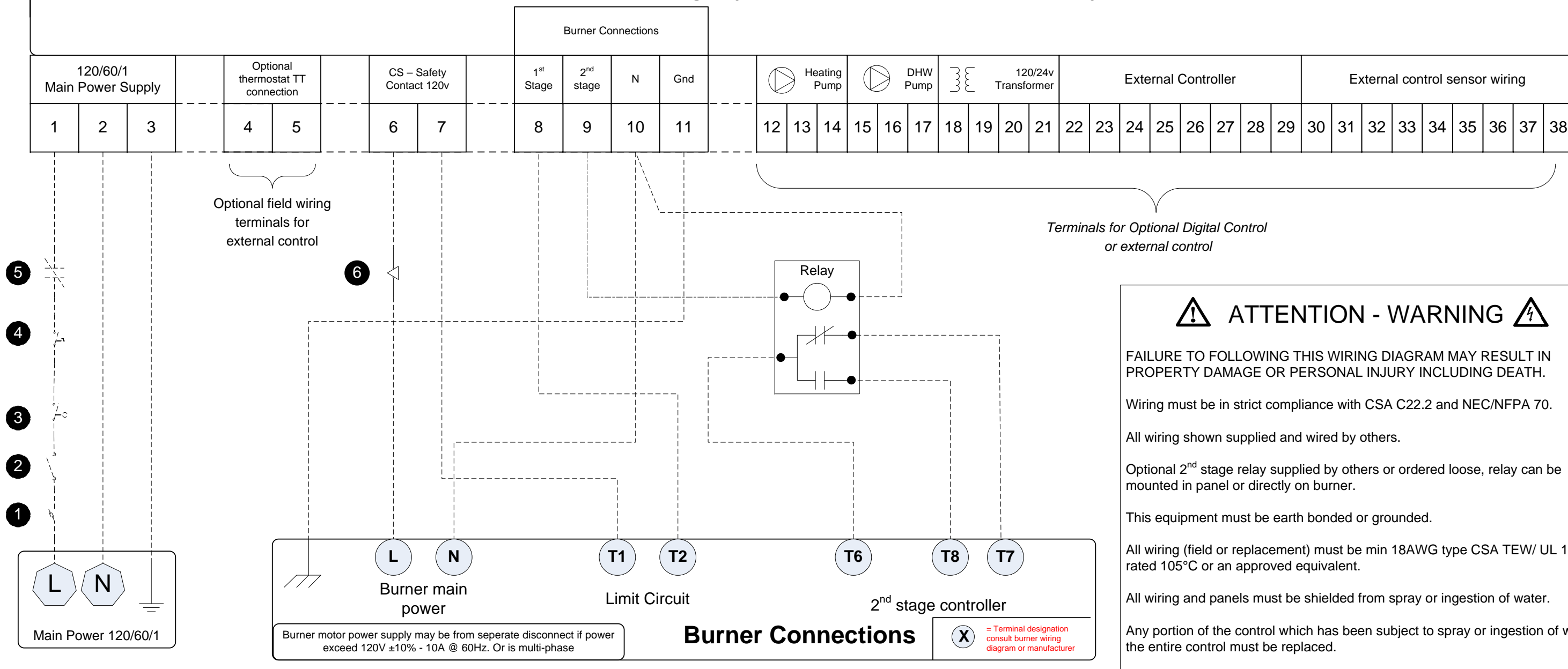
Drawn by: CJH 08-06-09 DWG #: 4-GTB-S23-001 (Rev1)



TYPICAL PANEL WIRING APPLICATION 2-STAGE (L-H-L) OPERATION

S2NA (ME50) or S3NA (MD5) Temperature control panel (FIELD WIRING DIAGRAM)

Internal wiring by DDR-De Dietrich factory



⚠ ATTENTION - WARNING ⚠

FAILURE TO FOLLOWING THIS WIRING DIAGRAM MAY RESULT IN PROPERTY DAMAGE OR PERSONAL INJURY INCLUDING DEATH.

Wiring must be in strict compliance with CSA C22.2 and NEC/NFPA 70.

All wiring shown supplied and wired by others.

Optional 2nd stage relay supplied by others or ordered loose, relay can be mounted in panel or directly on burner.

This equipment must be earth bonded or grounded.

All wiring (field or replacement) must be min 18AWG type CSA TEW/ UL 1015 rated 105°C or an approved equivalent.

All wiring and panels must be shielded from spray or ingestion of water.

Any portion of the control which has been subject to spray or ingestion of water, the entire control must be replaced.

It is the responsibility of the installer/owner to verify the controls are functioning correctly and are adjusted correctly.

Suitable wire protection and strain relief's are required (upstream & downstream) of the control panel.

Line voltage wiring and low voltage sensor wiring must use separate wire conduits.

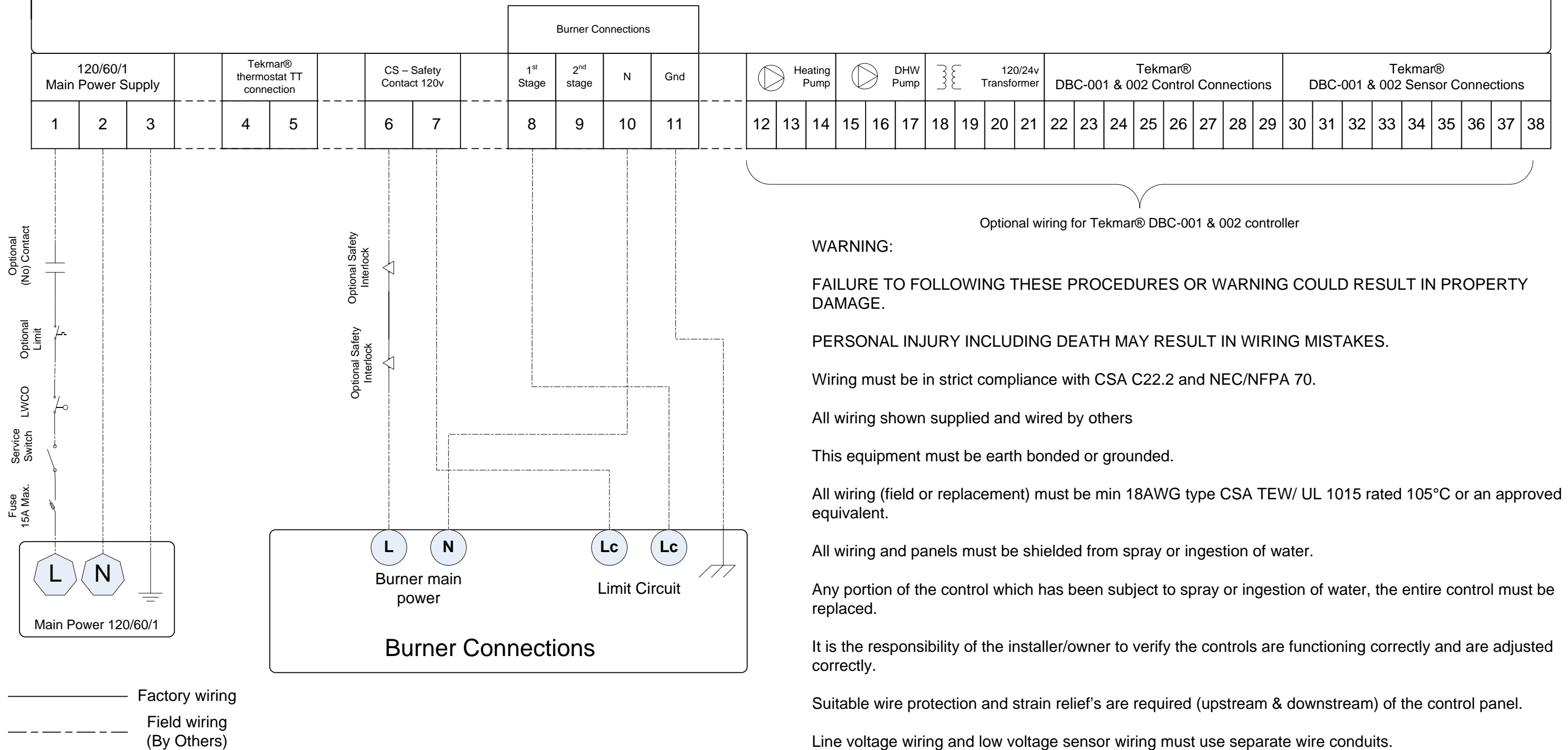
LABEL ALL WIRES PRIOR TO DISCONNECTING THEM FOR SERVICE.

Drawn by: CJH 08-06-09 DWG #: 4-GTB-S23-002 (Rev1)



RIELLO OR WIESHAUPT BURNER TYPICAL PANEL WIRING APPLICATION 2-STAGE (L-H-L) OPERATION

S2NA or S3NA Temperature control panel (Internal wiring by DDR-De Dietrich factory)



Optional wiring for Tekmar® DBC-001 & 002 controller

WARNING:

FAILURE TO FOLLOWING THESE PROCEDURES OR WARNING COULD RESULT IN PROPERTY DAMAGE.

PERSONAL INJURY INCLUDING DEATH MAY RESULT IN WIRING MISTAKES.

Wiring must be in strict compliance with CSA C22.2 and NEC/NFPA 70.

All wiring shown supplied and wired by others

This equipment must be earth bonded or grounded.

All wiring (field or replacement) must be min 18AWG type CSA TEW/ UL 1015 rated 105°C or an approved equivalent.

All wiring and panels must be shielded from spray or ingestion of water.

Any portion of the control which has been subject to spray or ingestion of water, the entire control must be replaced.

It is the responsibility of the installer/owner to verify the controls are functioning correctly and are adjusted correctly.

Suitable wire protection and strain relief's are required (upstream & downstream) of the control panel.

Line voltage wiring and low voltage sensor wiring must use separate wire conduits.

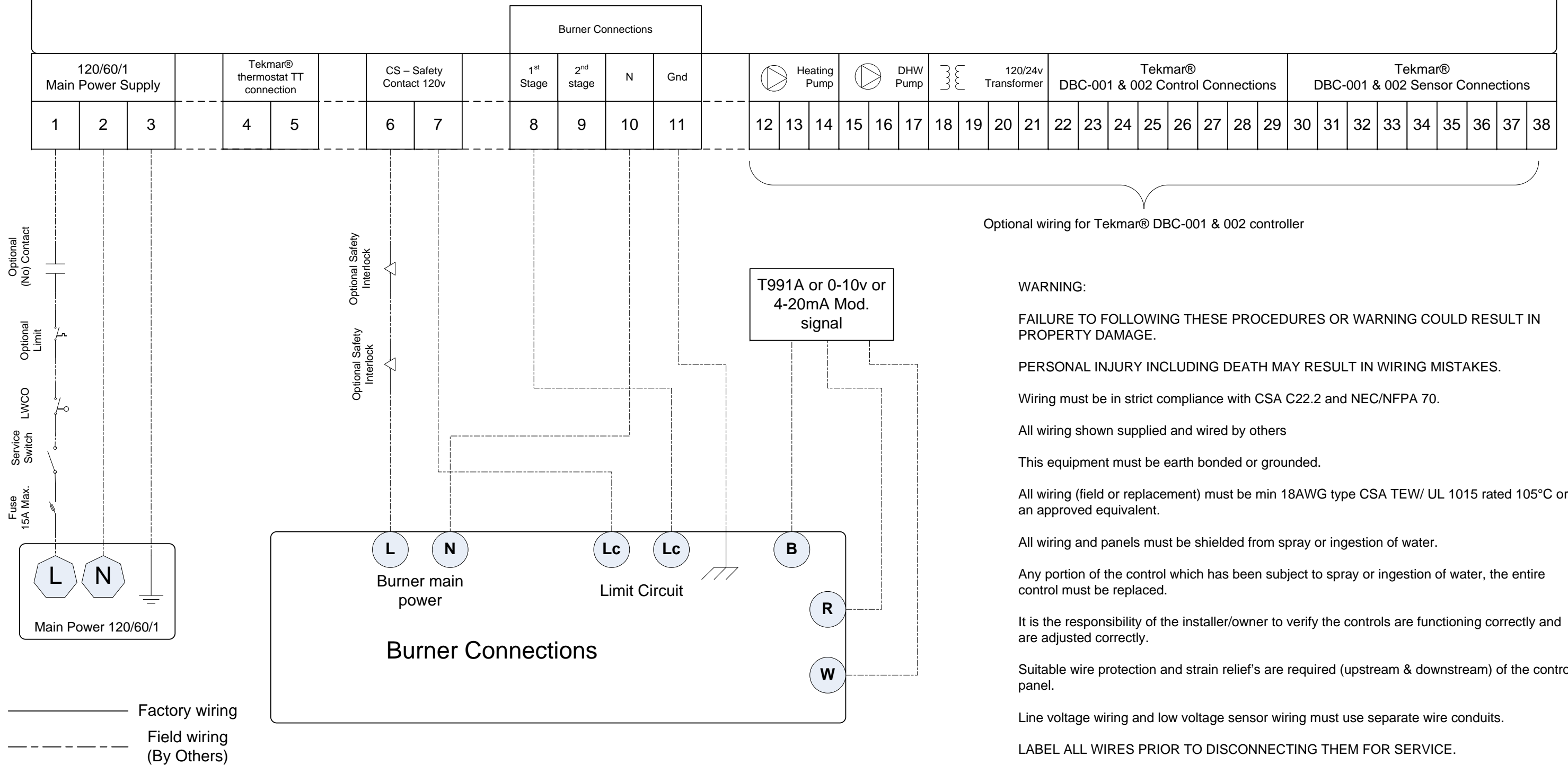
LABEL ALL WIRES PRIOR TO DISCONNECTING THEM FOR SERVICE.

**S2NA & S3NA
PANEL APPLICATION WIRING
SINGLE STAGE (ON/OFF) OPERATION**

Drawn by: CJH 06-24-08 DWG #: 4-GTB-S23-003 (Rev0)



S2NA or S3NA Temperature control panel (Internal wiring by DDR-De Dietrich factory)



Optional wiring for Tekmar® DBC-001 & 002 controller

WARNING:

FAILURE TO FOLLOWING THESE PROCEDURES OR WARNING COULD RESULT IN PROPERTY DAMAGE.

PERSONAL INJURY INCLUDING DEATH MAY RESULT IN WIRING MISTAKES.

Wiring must be in strict compliance with CSA C22.2 and NEC/NFPA 70.

All wiring shown supplied and wired by others

This equipment must be earth bonded or grounded.

All wiring (field or replacement) must be min 18AWG type CSA TEW/ UL 1015 rated 105°C or an approved equivalent.

All wiring and panels must be shielded from spray or ingestion of water.

Any portion of the control which has been subject to spray or ingestion of water, the entire control must be replaced.

It is the responsibility of the installer/owner to verify the controls are functioning correctly and are adjusted correctly.

Suitable wire protection and strain relief's are required (upstream & downstream) of the control panel.

Line voltage wiring and low voltage sensor wiring must use separate wire conduits.

LABEL ALL WIRES PRIOR TO DISCONNECTING THEM FOR SERVICE.

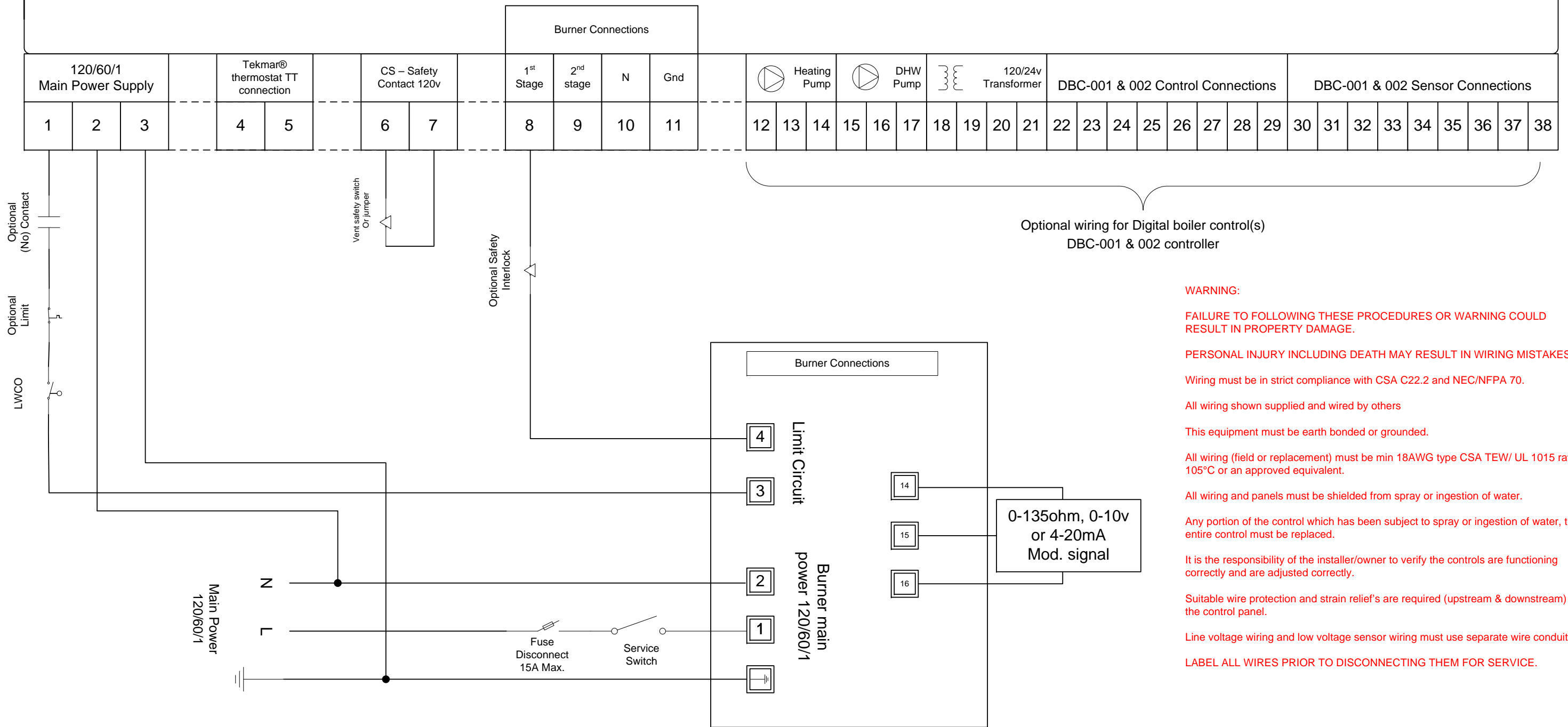
Drawn by: CJH 06-24-08

DWG #: 4-GTB-S23-004 (Rev0)



S2NA or S3NA PANEL APPLICATION WIRING FULL MODULATING OPERATION

S2NA or S3NA Temperature control panel (Internal wiring by DDR-De Dietrich factory)



WARNING:

FAILURE TO FOLLOWING THESE PROCEDURES OR WARNING COULD RESULT IN PROPERTY DAMAGE.

PERSONAL INJURY INCLUDING DEATH MAY RESULT IN WIRING MISTAKES.

Wiring must be in strict compliance with CSA C22.2 and NEC/NFPA 70.

All wiring shown supplied and wired by others

This equipment must be earth bonded or grounded.

All wiring (field or replacement) must be min 18AWG type CSA TEW/ UL 1015 rated 105°C or an approved equivalent.

All wiring and panels must be shielded from spray or ingestion of water.

Any portion of the control which has been subject to spray or ingestion of water, the entire control must be replaced.

It is the responsibility of the installer/owner to verify the controls are functioning correctly and are adjusted correctly.

Suitable wire protection and strain relief's are required (upstream & downstream) of the control panel.

Line voltage wiring and low voltage sensor wiring must use separate wire conduits.

LABEL ALL WIRES PRIOR TO DISCONNECTING THEM FOR SERVICE.

Drawn by: CJH 10-22-08 DWG #: 4-GTB-S23-005 (Rev0)

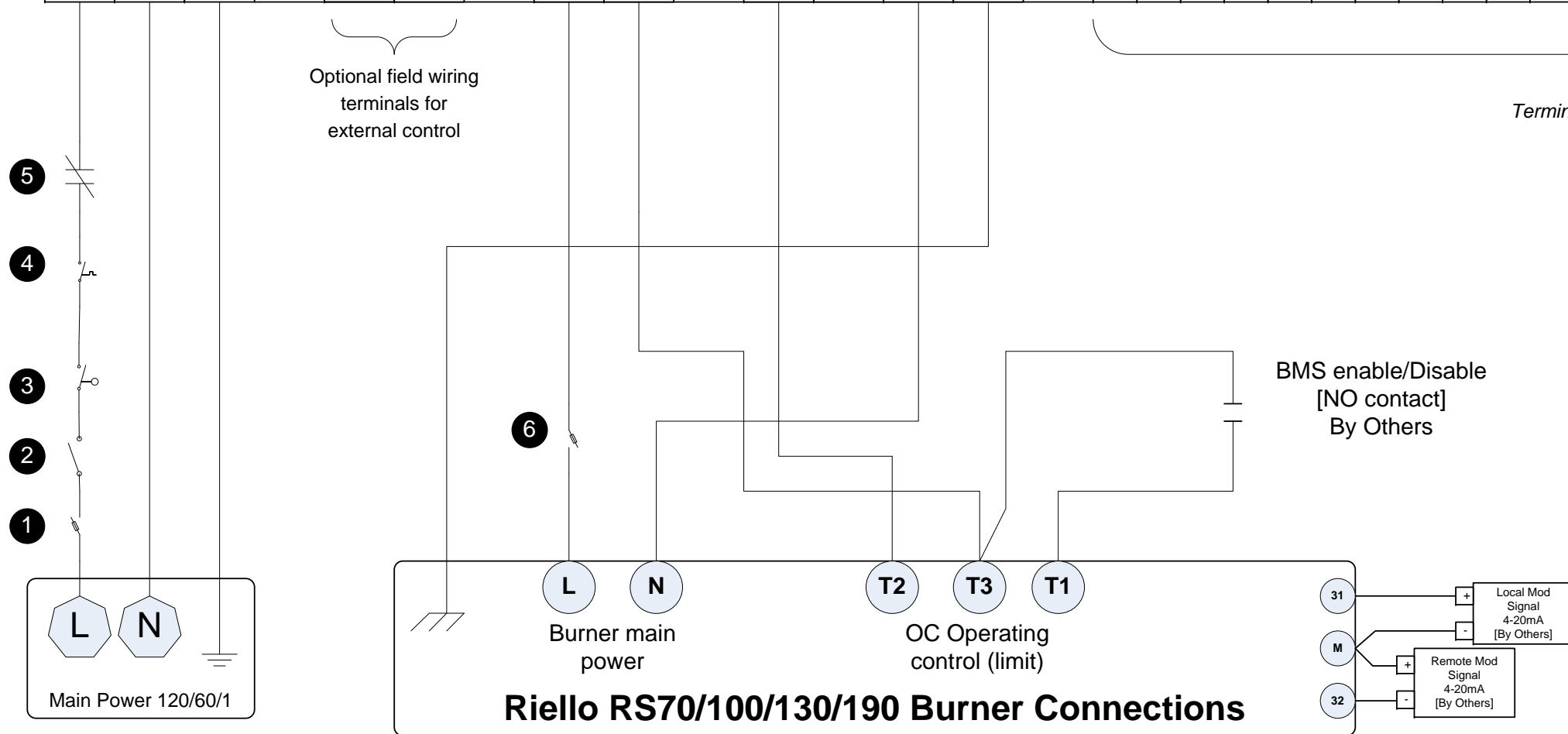
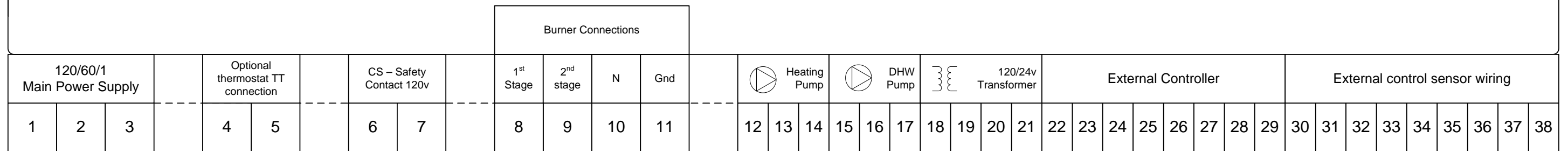


S2NA OR S3NA PANEL APPLICATION WIRING FULL MODULATING OPERATION

————— All field wiring shown by others

- 1 Burner terminals
- 1 Boiler panel terminals

De Dietrich S3NA (MD5) boiler control internal factory wiring



Terminals for Optional Digital Control or external control

⚠ ATTENTION - WARNING ⚠

FAILURE TO FOLLOWING THIS WIRING DIAGRAM MAY RESULT IN PROPERTY DAMAGE OR PERSONAL INJURY INCLUDING DEATH.

Wiring must be in strict compliance with CSA C22.2 and NEC/NFPA 70.

All wiring shown supplied and wired by others.

Optional 2nd stage relay supplied by others or ordered loose, relay can be mounted in panel or directly on burner.

This equipment must be earth bonded or grounded.

All wiring (field or replacement) must be min 18AWG type CSA TEW/ UL 1015 rated 105°C or an approved equivalent.

All wiring and panels must be shielded from spray or ingestion of water.

Any portion of the control which has been subject to spray or ingestion of water, the entire control must be replaced.

It is the responsibility of the installer/owner to verify the controls are functioning correctly and are adjusted correctly.

Suitable wire protection and strain relief's are required (upstream & downstream) of the control panel.

Line voltage wiring and low voltage sensor wiring must use separate wire conduits.

LABEL ALL WIRES PRIOR TO DISCONNECTING THEM FOR SERVICE.

All Field wiring shown (By Others)

Burner fan motor power supply not shown separate disconnect power supply required (By others)

Field Wiring Callout Notes

- | | | |
|----------------------------|-----------------------------|--|
| 1 Fuse disconnect 15A Max. | 3 Low water cut-off control | 5 Vent Safety Switch, unless burner is equipped with High gas or Pressure switch |
| 2 Service Switch | 4 External Limit (Optional) | 6 Burner control protection fuse 6A supplied/installed by others |

Drawn by: CJH 11/01/09

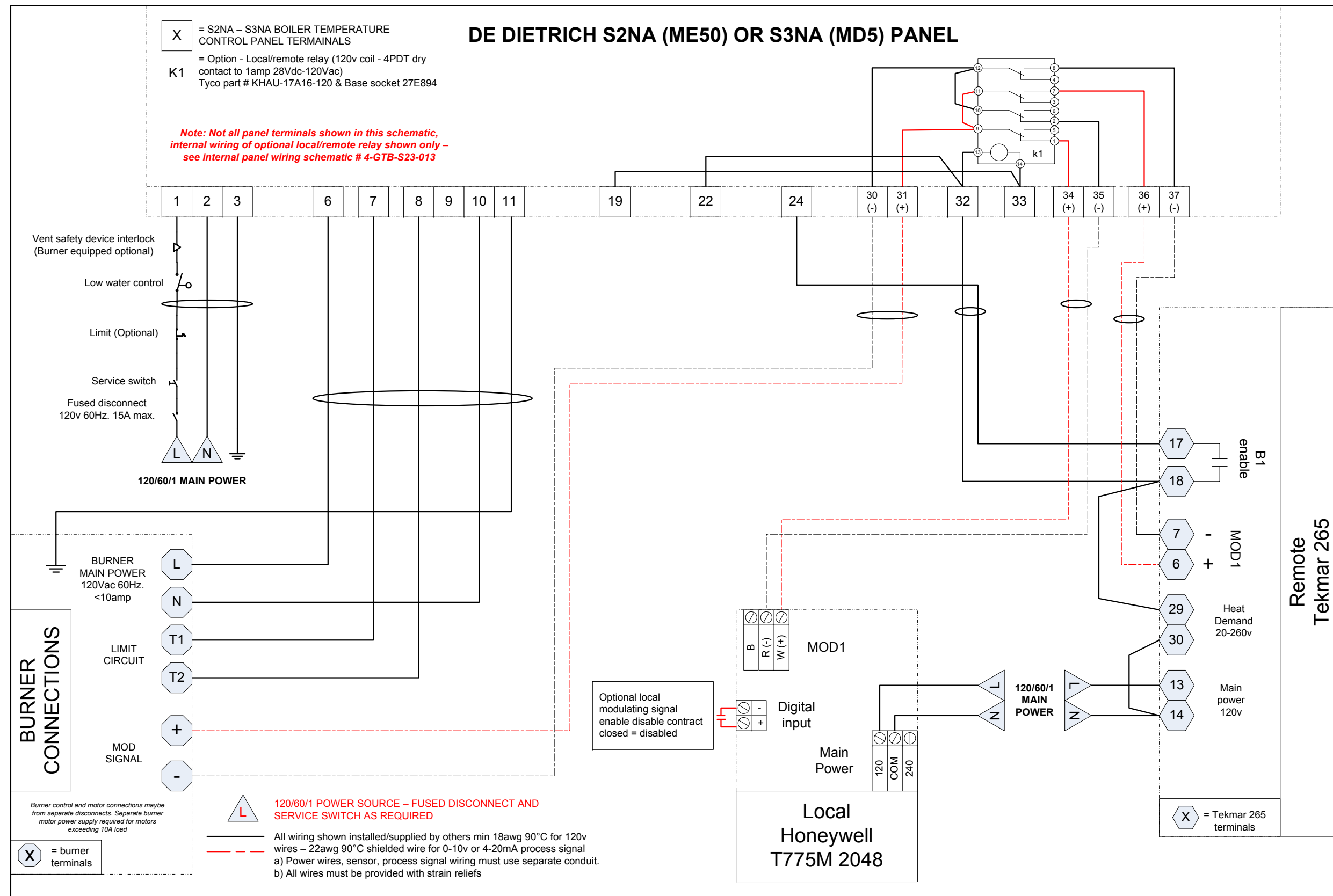


TYPICAL PANEL WIRING APPLICATION MODULATING BURNER

DE DIETRICH S2NA (ME50) OR S3NA (MD5) PANEL

- X = S2NA – S3NA BOILER TEMPERATURE CONTROL PANEL TERMINALS
- = Option - Local/remote relay (120v coil - 4PDT dry contact to 1amp 28Vdc-120Vac)
Tyco part # KHAU-17A16-120 & Base socket 27E894

Note: Not all panel terminals shown in this schematic, internal wiring of optional local/remote relay shown only – see internal panel wiring schematic # 4-GTB-S23-013



BURNER CONNECTIONS

Remote Tekmar 265

X = burner terminals

L 120/60/1 POWER SOURCE – FUSED DISCONNECT AND SERVICE SWITCH AS REQUIRED

— All wiring shown installed/supplied by others min 18awg 90°C for 120v wires – 22awg 90°C shielded wire for 0-10v or 4-20mA process signal
a) Power wires, sensor, process signal wiring must use separate conduit.
b) All wires must be provided with strain reliefs

Drawing Template [0]	De Dietrich BOILERS		Revisions		Description				
	DDR Americas Inc. 1090 Fountain Street North, Unit 10 & 11 Cambridge, Ontario N3E 1A3 – Canada Tel: 1.800.943.6275 Fax: 519.650.1709 Website: www.dedietrichboilers.com		Date	Description	Initial	De Dietrich temperature control panel S2NA (ME50) or S3NA (MD5) wiring schematic with optional local/remote process signal 0-10v or 4-20mA relay using Honeywell T775M 2048 (Local) & Tekmar 265 (Remote) modulating controls			
			Creator	Craig H.	Tolerances ±	None	Material	None specified	
			Approved		Scale	NTS	File Name	4-GTB-S23-014	
			Revision	0	Units	None	Date [mm/dd/yy]	08/12/09	