

Service Bulletin 088
September 4, 2015

Installing the 263 and 265 Modulating Boiler Controls with Modulating Boilers

The following tables list the essential settings required for the Boiler Controls 263 and 265 when installed with some of the most common modulating boilers on the market.

Table 1: Boilers with 0-10 Vdc Modulating Input for Firing Rate

Boiler Model	Fire Delay (min)	Motor Speed (sec)	Boiler Modulation	Minimum Mod (%)	Maximum Mod (%)	Required Equipment from Boiler Manufacturer	Boiler Control Setting		
							Parameter	Setting	Reference
Buderus GB142, 162, 312	0:30	10	0:20	30	100	EM10 Module	None	None	None
Dunkirk Q95M-200	2:15	10	0:20	18	100	HAM 0-10VDC Module	Parameter 34 [P .34]	[- - 04]	p.3 Ham Installation Instructions
HTP Elite	0:14	24	0:20	16	100	None	Function 16	0-10 Volt	Pg. 57 of I/O Manual
							Function 17	Fan Speed	
Lochinvar Knight	0:23	10	0:20	20	100	None	Control Modes	BMS = Active	Pg. 24 & 26 of Service Manual
							BMS	BMS Type = Power	
Lochinvar Sync	0:35	10	0:20	20	100	None	Demand Config.	3	Pg. 19 of Service Manual
Peerless PureFire REV2	0:15	50	0:20	20	100	Interface Adapter PFA-1	Heating Mode	5	Pg. 43 of I/O Manual
Triangle Tube Prestige Solo	0:10	30	0:20	20	100	None	CH Demand Type	0-10V	Pg. 46 of I/O Manual
Triangle Tube Prestige Excellence	0:10	30	0:20	20	100	None	CH Demand Type	0-10V	Pg. 43 of I/O Manual
Weil-McLain Ultra Series 3	0:30	60	0:20	20	100	None	Additional Heat Demand	Type 4	Pg. 84 of I/O Manual

It is important to note that the 263 and 265 provides either a 0-20 mA or 4-20 mA signal. When installed with a boiler that requires a 0-10 VDC, a 500 ohm resistor must be installed between the “+” and “-” terminals on the modulating output of the control.

Table 2: Boilers with 4-20 mA Modulating Input for Firing Rate

Boiler Model	Fire Delay (min)	Motor Speed (sec)	Boiler Modulation	Minimum Mod (%)	Maximum Mod (%)	Required Equipment from Boiler Manufacturer	Boiler Control Setting		
							Parameter	Setting	Reference
Burnham Alpine	0:40	30	4:20	0	100	None	Central Heating Modulation Source	4-20mA	p.109 I/O Manual
Camus DynaFlame	0:30	120	4:20	0	100	None	Central Heat Modulation Rate Source	S2 4-20mA	Pg. 55 of I/O Manual
Laars Mascot II	1:00	30	4:20	20	100	None	Anti Short Cycling	0 min	Pg 28/29 of I/O Manual
Laars NeoTherm	1:00	30	4:20	20	100	None	Anti Short Cycling	0 min	Pg 45 of I/O Manual
NTI Trinity Lx	0:10	30	4:20	0	100	None	Modulation Rate Source	S2 4-20mA	Pg. 12 of Appendix A
Slant/Fin CHS	0:10	30	4:20	22	100	None	Mod Rate Source	4-20 mA	Pg. 11 of Appendix A

Fig 1: tekmar 263, 265 to Buderus GB142/162/312

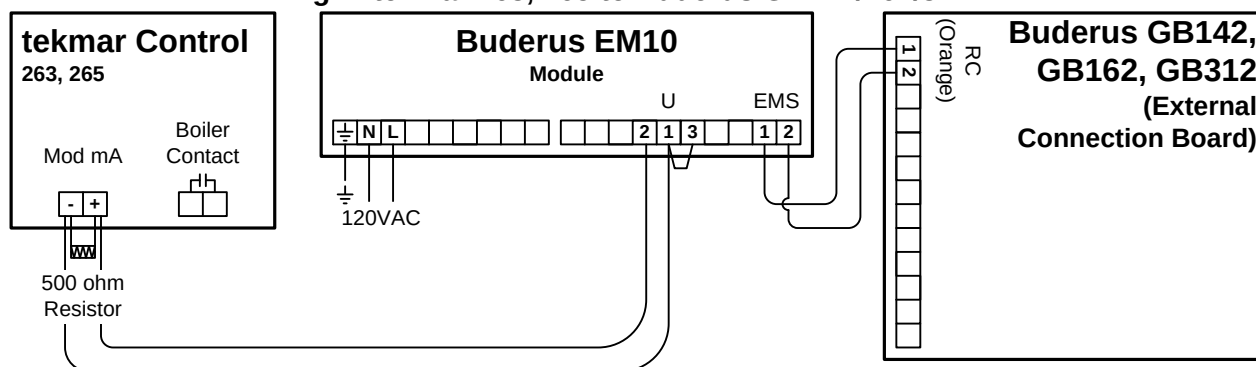


Fig. 2: tekmar 263, 265 to Burnham Alpine

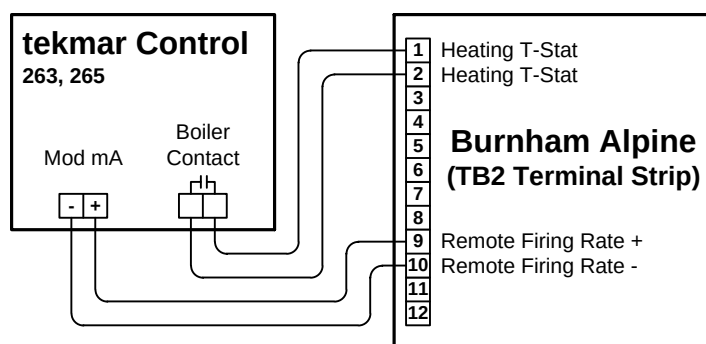


Fig. 3: tekmar 263, 265 to Dunkirk Q95M-200

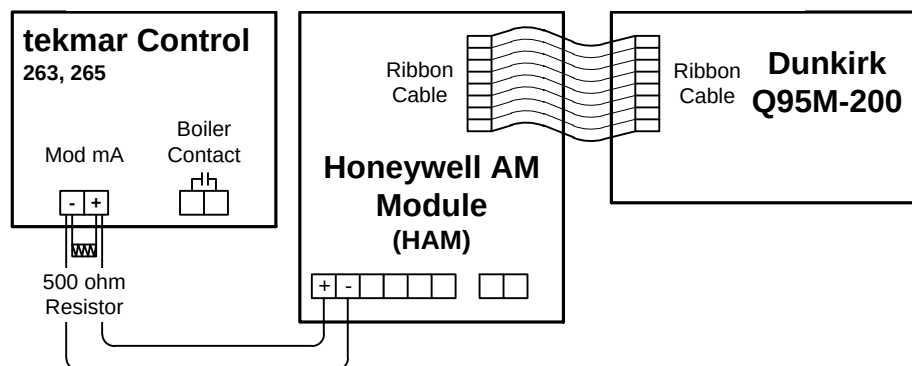


Fig. 4: tekmar 263, 265 to Camus DynaFlame

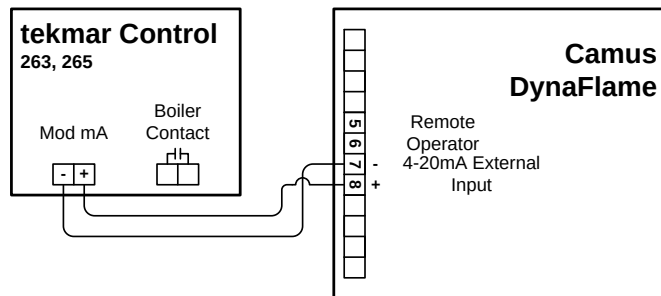
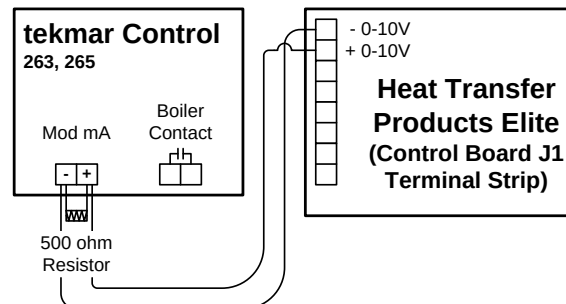


Fig. 5: tekmar 263, 265 to HTP Elite



tekmar Control
263, 265

Mod mA (-) Mod mA (+)

Boiler Contact

Laars Mascot II
(1 Term Strip)

Analog Input -
Analog Input +
TT or Interlock

1 2 3 4 5 6

tekmar Control
263, 265

Mod mA

Boiler Contact

Laars NeoTherm
(Field Connections TB7)

TT or Interlock

Analog Input +

Analog Input -

1 2 3 4 5 6

tekmar Control
263, 265

Mod mA

Boiler Contact

500 ohm Resistor

19 Heat/Loop Demand 1

20

21

22

23

24

25

26

Lochinvar Knight

27

28

29

30

31

32

33 + BMS IN

34 - 0-10V

tekmar Control
263, 265

Mod mA Boiler Contact

500 ohm Resistor

15
16
17
18
19 + 0-10V
20 - Input
21
22
23
24
25
26

Lochinvar Sync
(Connection Board)

The diagram illustrates the wiring for the NTI Trinity Lx 150-400 Models. It features a control unit with three input terminals: 'Mod mA' (with '-' and '+' sub-terminals), 'Boiler Contact' (with a switch symbol), and 'Thermostat Call' (with a bell symbol). The unit is connected to a terminal block with 16 numbered terminals (1-16). The wiring is as follows:

- Mod mA:** The '-' terminal is connected to terminal 13, and the '+' terminal is connected to terminal 14.
- Boiler Contact:** The switch is connected between terminal 11 and terminal 12.
- Thermostat Call:** The bell symbol is connected between terminal 11 and terminal 12.

Additional labels on the right side of the diagram include 'Thermostat Call' next to terminal 2, 'NTI Trinity Lx 150-400 Models' spanning terminals 7-9, and '4-20mA External Input' with '-' and '+' signs next to terminals 11 and 12 respectively.

The diagram illustrates the wiring for the Peerless Interface Board (PFA-1). It shows the following components and connections:

- tekmar Control 263, 265**: A box containing a **Mod mA** terminal (with '-' and '+' signs) and a **Boiler Contact** terminal (with a switch symbol).
- 500 ohm Resistor**: Connected between the Mod mA terminal and the RDWH line.
- AUX. Inputs (PureFire)**: A block with terminals 15, 16, RD, and RDWH.
- J5**: A 4-pin connector with terminals 6, 12, 5, 11, 4, 10, 3, 9, 2, 8, and 1, 7.
- J7**: A 4-pin connector with terminals 2, 4, 1, and 3.
- J18 (PureFire)**: A 2-pin connector with terminals 1 (BL) and 2 (BR).
- J8**: A 2-pin connector with terminals 1 and 2.

Connections shown in the diagram:

- RDWH line connects to the 500 ohm Resistor and the RDWH terminal of the AUX. Inputs block.
- RD line connects to the RD terminal of the AUX. Inputs block.
- Mod mA terminal connects to the 500 ohm Resistor.
- Boiler Contact terminal connects to the RDWH line.
- J5 connects to the RDWH line.
- J7 connects to the RDWH line.
- J18 (PureFire) connects to the RDWH line.
- J8 connects to the RDWH line.

Fig. 12: tekmar 263, 265 to Slant/Fin CHS

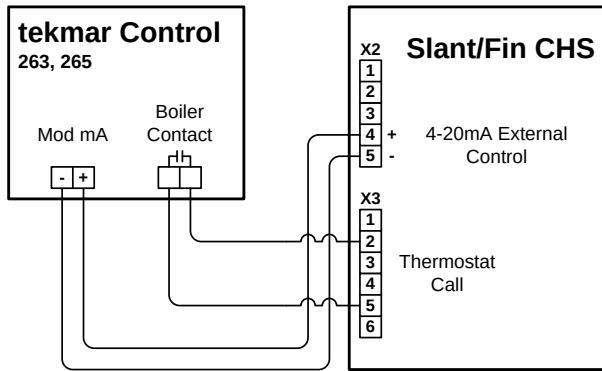


Fig. 13: tekmar 263, 265 to Triangle Tube Prestige Solo & Prestige Excellence

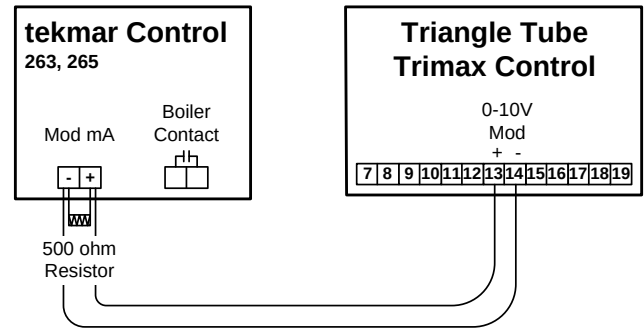
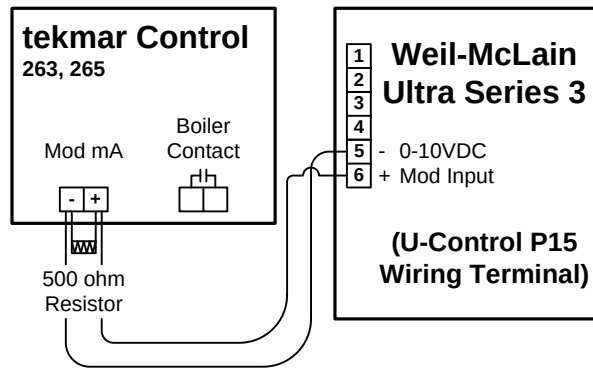


Fig. 14: tekmar 263, 265 to Weil-McLain Ultra Series 3



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