

Service Bulletin 086
September 4, 2015

Installing House Controls 400, 401, 402, 403 & 406 with Modulating Boilers

The following tables list the essential settings required for the House Control 400, 401, 402 and 403, 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	Boiler Type	Boiler Motor (sec)	Minimum Modulation (%)	Modulation Delay (min)	Required Equipment from Boiler Manufacturer	Boiler Control Setting		
						Parameter	Setting	Reference
Buderus GB142, 162, 312	0-10	10	30	0:10	EM10 Module	None	None	None
Dunkirk Q95M-200	0-10	10	18	1:45	HAM 0-10VDC Module	Parameter 34 [P .34]	[- - 04]	p.3 Ham Installation Instructions
HTP Elite	0-10	24	16	0:10	None	Function 16	0-10 Volt	Pg. 57 of I/O Manual
						Function 17	Fan Speed	
Lochinvar Knight	0-10	10	20	0:05	None	Control Modes	BMS = Active	Pg. 24 & 26 of Service Manual
						BMS	BMS Type = Power	
Lochinvar Sync	0-10	10	20	0:05	None	Demand Config.	3	Pg. 19 of Service Manual
Peerless PureFire REV2	0-10	50	20	0:00	Interface Adapter PFA-1	Heating Mode	5	Pg. 43 of I/O Manual
Triangle Tube Prestige Solo	0-10	30	20	0:30	None	CH Demand Type	0-10V	Pg. 46 of I/O Manual
Triangle Tube Prestige Excellence	0-10	30	20	0:30	None	CH Demand Type	0-10V	Pg. 43 of I/O Manual
Weil-McLain Ultra Series 3	0-10	60	20	1:00	None	Additional Heat Demand	Type 4	Pg. 84 of I/O Manual

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

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

Table 3: Boilers with 0-10 Vdc Modulating Input for Setpoint Temperature

Boiler Model	Boil Type	Boiler Motor (sec)	Minimum Modulation (%)	Modulation Delay (min)	Required Equipment	Boiler Control Setting		
						Parameter	Setting	Reference
Viessmann Vitodens 100-W, WB1B	EMS2	N/A	N/A	N/A	OpenTherm Module	Adjust Reset curve to low	N/A	N/A
Viessmann Vitodens 200-W, WB2B	EMS2	N/A	N/A	N/A	None	Adjust Reset curve to low	N/A	N/A
Viessmann Vitodens 200-W, B2HA (Models 19-60)	EMS2	N/A	N/A	N/A	None	Adjust Reset curve to low	N/A	N/A
Viessmann Vitodens 200-W, B2HA & B2HB (Models 80-150)	EMS2	N/A	N/A	N/A	None	Adjust Reset curve to low	N/A	N/A
Viessmann Vitodens 222-F, B2TA & B2TB	EMS2	N/A	N/A	N/A	None	Adjust Reset curve to low	N/A	N/A

Fig. 1: tekmar House Control to Buderus GB142/162/312

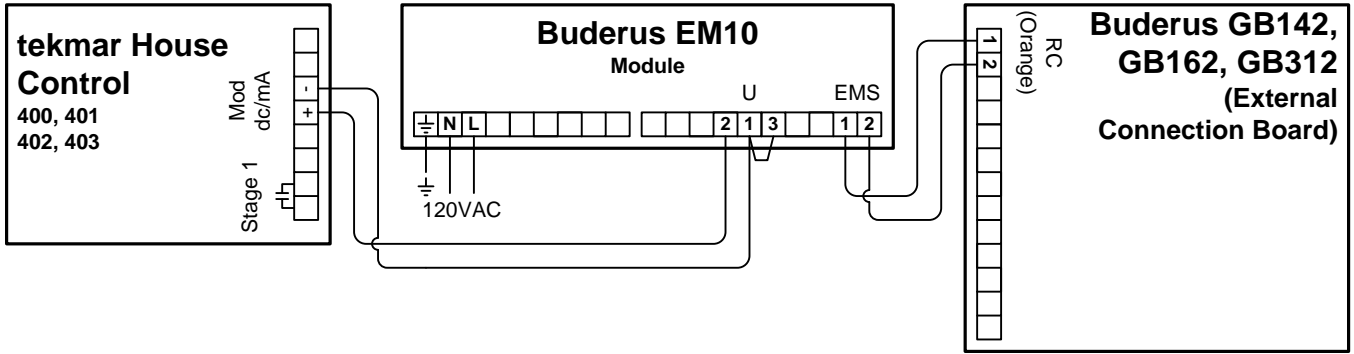


Fig. 2 : tekmar House Control to Burnham Alpine

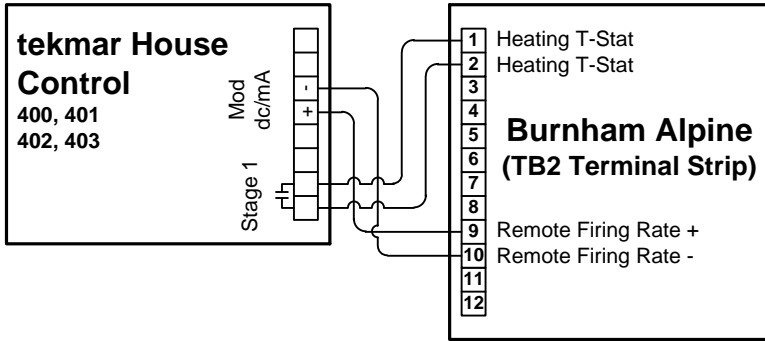


Fig. 3: tekmar House Control to Camus DynaFlame

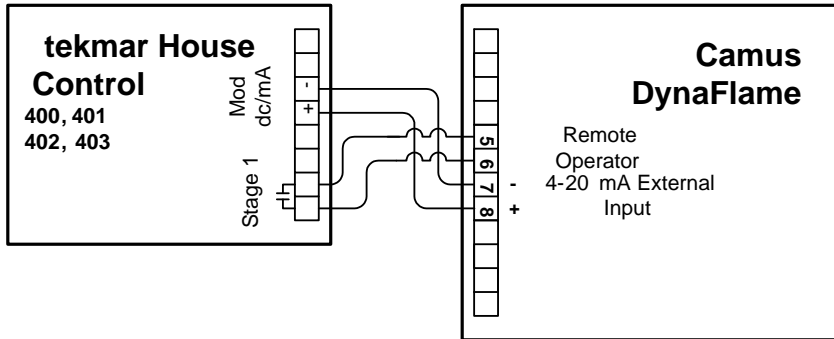


Fig. 4 : tekmar House Control to Dunkirk Q95M-200

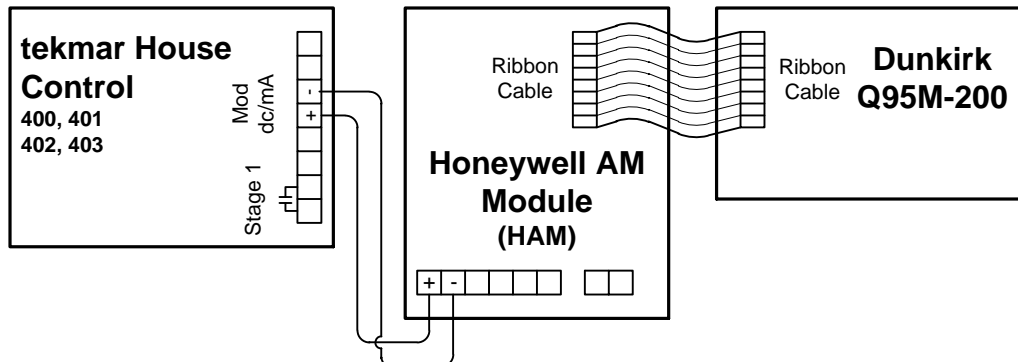


Fig. 5: tekmar House Control to HTP Elite

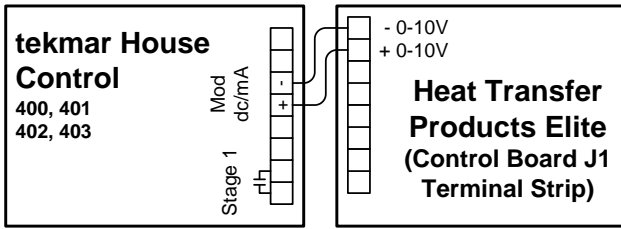


Fig. 6: tekmar House Control to Laars Mascot II

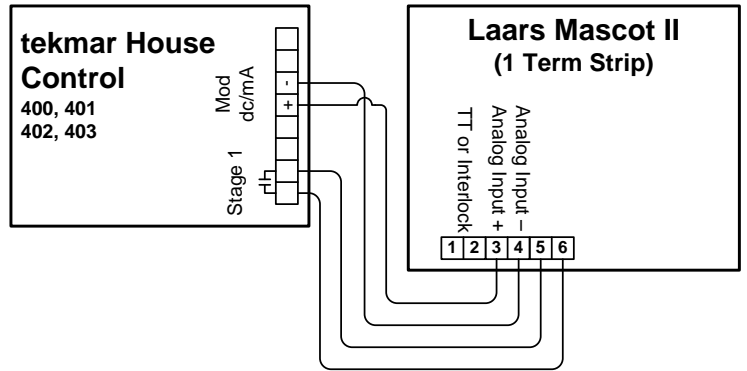


Fig. 7: tekmar House Control to Laars NeoTherm

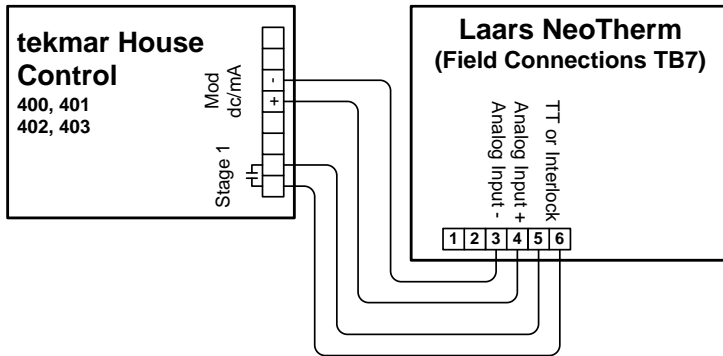


Fig. 8: tekmar House Control to Lochinvar Knight

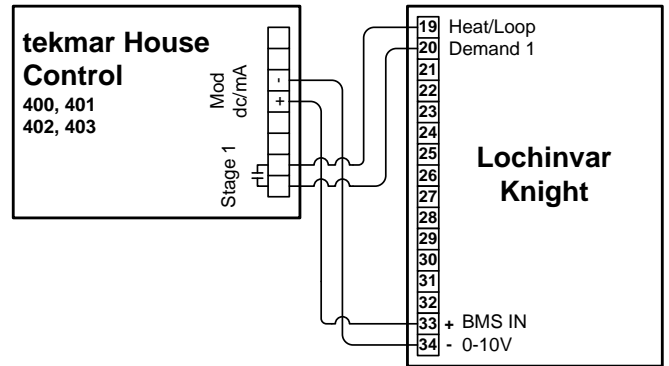


Fig. 9: tekmar House Control to Lochinvar Sync

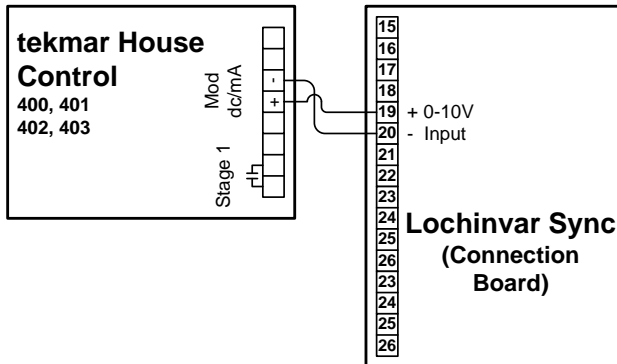


Fig. 10: tekmar House Control to NTI Trinity Lx 150-400

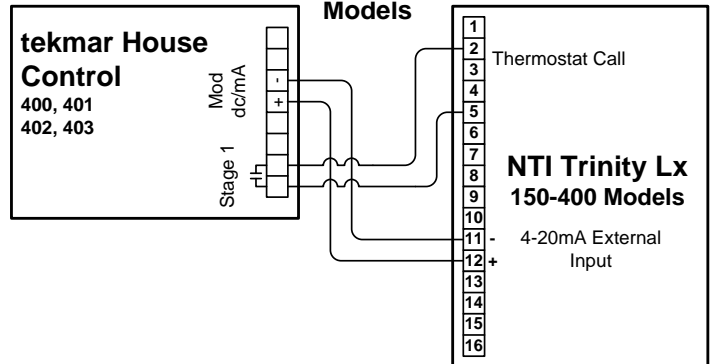


Fig. 11: tekmar House Control to Peerless PureFire

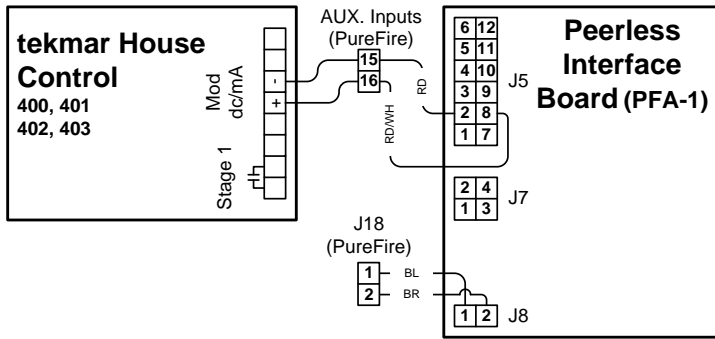


Fig. 12: tekmar House Control to Slant/Fin CHS

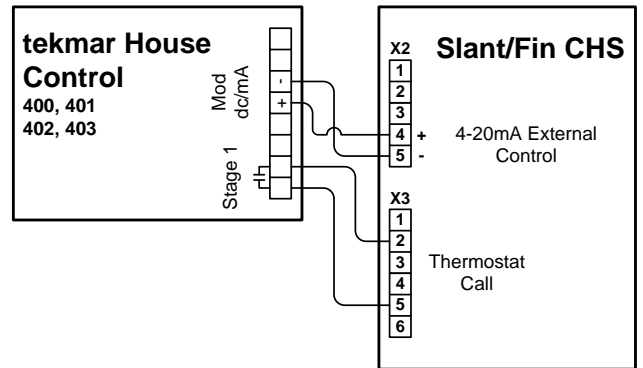


Fig. 13: tekmar House Control to Triangle Tube Prestige Solo & Prestige Excellence

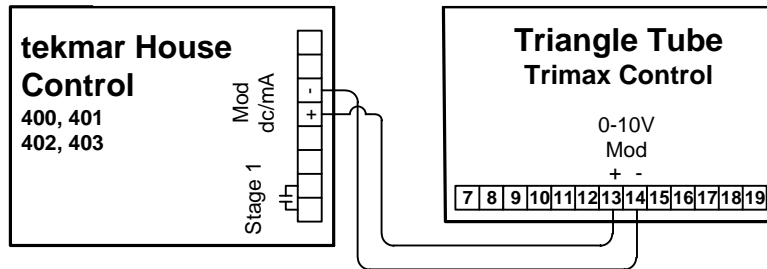


Fig. 14: tekmar House Control to Viessmann Vitodens 100

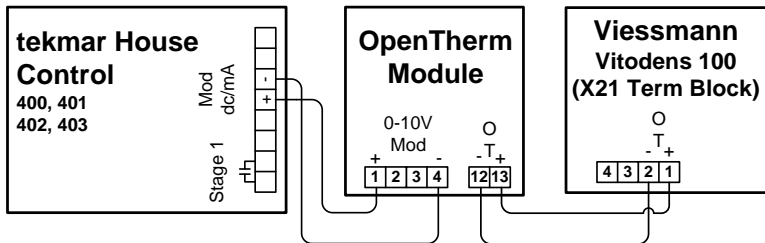


Fig. 15: tekmar House Control to Viessmann Vitodens 200 WB2B Models

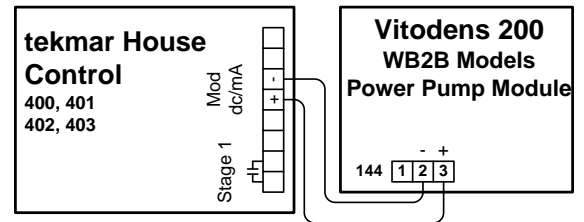


Fig. 16: tekmar House Control to Viessmann Vitodens 222-F B2TA / B2TB & 200-W B2HA / B2HB Models

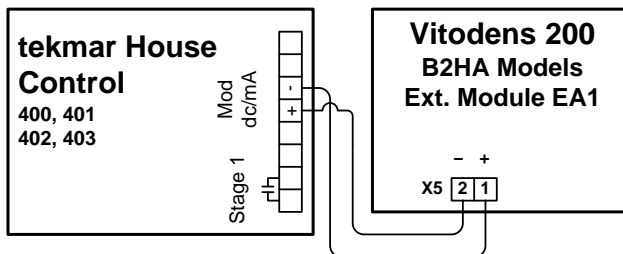
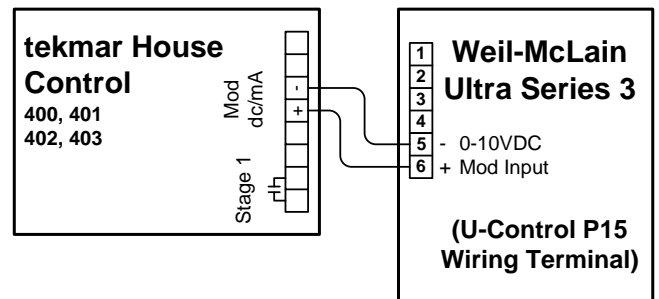


Fig. 17: tekmar House Control to Weil-McLain Ultra Series 3



PLEASE NOTE: Due to published changes made without notice by Boiler Manufacturers to their specifications and capabilities, tekmar Control Systems does not assume any responsibility for boiler manufacturers' amendments, modifications, deletions or changes nor does tekmar Control Systems accept any responsibility for the damage or personal injury due to unsafe and improper boiler operation that is guided by this 'Note' and by the manufacturer's installation and operating instructions.

