SLC4075TechNote211_TSGWInitialSettingsAndWiringChecklist

Rev 02/02/21

The following is a list of pertinent parameters for the basic controller setup. Boldface settings are the default.
TSGW Firmware 2.11+

General Configuration Items:

Page	Title	Item	Description	Setting	Other Choices	
3	**PID1**					
		PID1 Mode Select	**Use for Hot Water Systems** **Disable for Steam Systems** Selects the mode of operation for PID1. **Select a DDC mode to use the internal PID.** **BMS may change values**	1	**0 = Disabled** **1 = Heat Mode DDC** 2 = Cool Mode DDC 3 = Heat Mode No DDC 4 = Cool Mode No DDC	
		PID1 Unm Setpt	Unmodified set point temperature	Desired temperature		
		EU	Engr Unit Sel	1	**1= Deg F** 2=Deg C	
		SPM1 Src Select	See Setpoint Modifier 1	0	See Setpoint Modifier 1	
		Min Output Pct	Minimum PID1 output in pct	0		
		Proportion	PID1 Proportion	1000		
		Integral	PID1 Integral	5		
		Derivative	PID1 Derivative	0		
4	Setpoint Modifier 1		Set point modifier. The selected input is used to 'reset' the setpoint. Four associated parameters must be defined			
		SPM Src Select	Disabled	0	**0 = Disabled** 1 = RTD2 Deg F 2 = RTD2 Deg C 3 = GPA2 Pct Span 4 = GPA2 Engr Units	
5	PID2					
		PID Mode Select	**Use for Steam Systems** **Disable for Hot Water Systems** Selects the mode of operation for PID1. **Select a DDC mode to use the internal PID.** **BMS may change values**	0	**0 = Disabled** **1 = Heat Mode DDC** 2 = Cool Mode DDC 3 = Heat Mode No DDC 4 = Cool Mode No DDC	
6	Setpoint Modifier 2		Set point modifier. The selected input is used to 'reset' the setpoint. Four associated parameters must be defined			
		SPM Src Select		0	**0 = Disabled** 1 = RTD2 Deg F 2 = RTD2 Deg C 3 = GPA2 Pct Span 4 = GPA2 Engr Units	

Page	Title	Item	Description	Setting	Other Choices	
7	RTD Sensors					
		RTD1 Deg F RTD Deg C	Displays Actual boiler temperature			
		RTD1 Bias Cnts	Provides for temperature adjustment	0	A bias cnt = ~0.3 Deg F	
		RTD2 Bias Cnts	Provides for temperature adjustment	0	A bias cnt = ~0.3 Deg F	
		RT1D En HiLo Alarms	User-defined software alarm	OFF	OFF or ON	
		RTD1 Hi Alm Deg F	User=defined	0		
		RTD1 Lo Alm Deg F	User=defined	0		
		RTD2 Hi Alm Deg F	User=defined	0		
		RTD2 LoAlm Deg F	User=defined	0		
8	General Purpose Analog Sensors	Analog sensors	Displays the value and signal configuration of the 2 sensors			
		GPA1/GPA2 Bias Pct	Allows an offset to be applied to the GPA Span Pct reading	0		
9	General Purpose Digital Inputs (GPDI)	SdEn-Inv Mask	8 bits used to define Shutdown Enable and Signal Inversion for each of the 4 GPDI bits An active Shutdown bit causes all of the relays to be turned off. This is defined for limit string inputs, applicable ONLY for a ***single*** boiler configuration. Multiple boiler systems must individually disable the applicable S4K. Set the Inv bit to change the sense of the signal, so NO applied voltage is treated as a logical high.	0		
		PowerOn Inh Secs	Seconds to inhibit GPDI alarms on a power cycle			
10	Expansion Digital Inputs		Provides expansion inputs			
11	Relays					
		Relayx Src Selector	Select the signal source for the applicable relay		0 = Disabled 1 = GPDI 2 = GPDIx AND GPDI4 3 = GPDIx OR GPDI4 4 = DDC 5 = S4K Fault 6 = PGW Fault 7 = TSGW Fault 8 = CLL S4K 9 = CLL S4K Any	
		Invert Mask	Inverts the source signal sense, so a logical 0 turns the relay ON Each bit represents a relay with the leftmost bit is Relay 3			

Page	Title	Item	Description	Setting	Other Choices	
12	Expansion Relays	Src Select	Selects the signal source for the relays		0 = Disabled 1 = XDI 2 = XDI Relays 1-4 and Faults Relays 5-8 3 = XDI Relays 1-4 and DDC Relays 5-8 4 = All Relays DDC 5 = Relays 1-4 CLLS4K and Relays 5-8 XDI 6 = Relays 1-4 CLLS4K and Relays 5-8 DDC	
13	Voltage Driver	Src Sel	Provides a voltage signals that follows the selected source value.	5	0 = Disabled 1 = RTD1 2 = RTD2 3 = GPA1 4 = GPA2 5 = PID1 0-10V 6 = PID1 2-10V 7 = PID2 0-10V 8 = PID2 2-10V 9 = BMS	
14	SLC4060 Information					
15	TSGW Informatin					
16	SLC4000 Information					
17	Platform Information	Reset	Resets the system Run time meters			
18	User Manager		Provides for secure access		See Crimson manual to configure	
19	Communication Assurance	Failsafe Cnt- Master	Continually changing number			
		Failsafe Cnt- Addr1 through Addr 3	Continually changing number if unit exists			
		Failsafe Cnt- PGW	Continually changing number			
		PGW Exists		ON		
		TSGW Polled		ON		
20	Classic Lead/Lag, **If Enabled**	Profile Select		0	0 = Disable, 1 = 100/0 2 = 80/20/100 3 = 50/25/100 4 = 50/50/100 5 = Parallel	
21	CLL Run Time **If Enabled**	Reset	Resets the respective Boiler Run time meter			

Checklist

	Location	Description	Action	
1.	SLC4000 (S4K) Master in a Building Management Interface (BMI) system OR in a non-BMI multiple boiler system.	Master L1 (TB120) Wiring	Verify that line power is always applied when the BMI is operational as this coordinates the intercommunication of the component devices. An SLC4032 Line Filter is highly recommended connected to TB120 and TB121 to provide EMI protection. The same line filter may be used to supply power to the Process Gateway (PGW) line terminals TB100 and TB101. ***The line filter is highly recommended if the PGW supplies the 24V dc to the SLC4075 touchscreen.***	
2.		RLYCOM (TB109) Wiring	Verify that the limit string supplies the power to this terminal, which provides the hardware safety interlock.	
3.	SLC4000 (S4K) Master in a Building Management Interface (BMI) system	Is there an external signal connected to TB2 and TB3?	**If yes**, it is recommended to install a ferrite core, SLC4033 for EMI protection. If no, connect a jumper between TB2 and TB3 to ensure no output when the Aux/DDC switch is in the Aux position.	
4.	Expansion Unit in a Building Management Interface (BMI) system or in a multiple boiler system	Limit string wiring	**Non-CLL** Verify that both L1 (TB120) and RLYCOM (TB109) are powered from the limit string. This wiring disconnects this expansion unit from the being included in the relay sequencing. **CLL systems**, the remaining master and any other expansion units are reset to re-synchronize the system. The default TSGW action for a multiple boiler system is to remove the locked-out boiler from the sequencing logic. The SLC4000s are reset to re-sync the system, so the other boilers are momentarily disabled. If the reset of the system is not desirable, the TSGW firmware may be modified to NOT re-sync on boiler lockout, however the relay sequencing will include 'dead' steps from the corresponding expansion unit. Specific wiring of the expansion units L1 must be implemented. The boiler lockout is treated as an advisory, rather than a shutdown of the expansion unit.	
5.	SLC4075 Touchscreen (TSGW) PID1 or PID2 page	PID selection	• Either PID1 OR PID2 must be selected **How Water Systems:** • Select **PID1**, PID1 mode select 1, Heat Mode, DDC **Steam Systems:** • Select **PID2**, PID2 mode select 1, Heat Mode, DDC	
6.		PID Values	Start with the defaults, or P=1000 for hot water, P=500 for steam, I=2, D=0, and adjust as required. See 'SLC4075TechNote03_PIDTuningProcedureAndInformation.pdf' available at selectronix.us in the Support section.	

	Location	Description	Action	
7.	TSGW SPM1 or SPM2 page	Set point modifier	Set as desired	
8.	TSGW	RTD1	For Hot Water systems, verify that the displayed temperature is as expected. Ignore for Steam systems. "RTDx OpenCkt" is displayed when no RTD is connected.	
9.	TSGW	GPDI	Verify that the Input Label display the correct nomenclature	
10.			Verify the settings for Inv, AlmEn, SdEn are as desired	
11.	TSGW	Expansion Digital Inputs	Verify that the alarm mask and Invert mask are as desired	
12.	TSGW	Relays	• Verify that the source select for each of the relays • Verify the relay labels correspond to the relay source select	
13.	TSGW	Expansion Relays	Verify that the Source Select and Off Dly Secs are as desired	

14.	TSGW	CLL	**If Enabled:**
			• Select desired Profile
			• Select desired Lead Boile
			• Select Lead Change hours
			• If PGW AnyOn Relays are selected, Set
			  o Set desired OnDly Secs
			  o Set desired OffDly Secs	