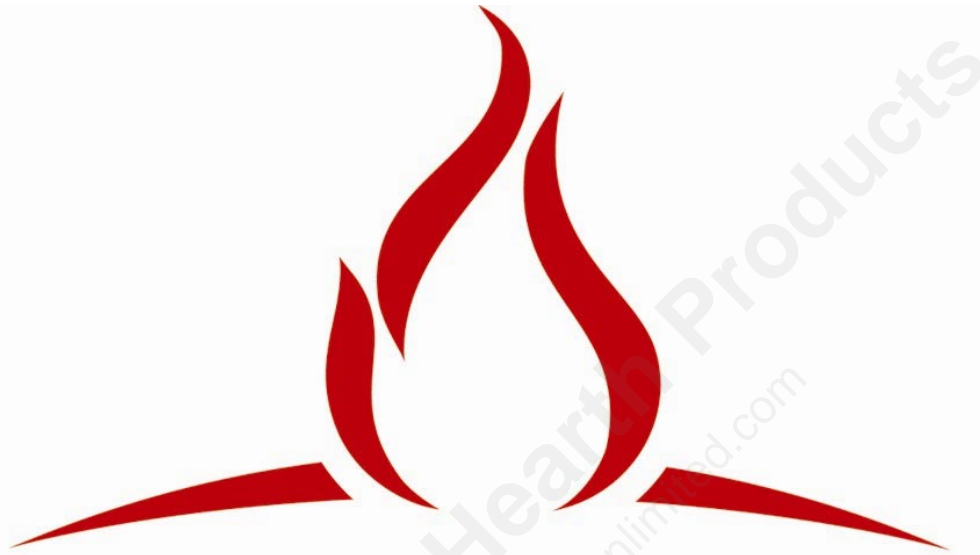


RIKA Pellet Stoves – All Models

Programming Change/Enhancement Overview

Software Version 1.33 or higher



RIKA®

Heating The Way

Noted Changes in Control Software (for boards with minimum software version 1.33)

Description of the changes

Error messages:

More exact and detailed error messages display for improved diagnostics.

Convection fan:

The speed of the convection blower can be changed by the consumer.

Operating modes for different pellet qualities:

The end user will have the ability to change between two program profiles, for premium or lower grade pellets.

Error messages

Specific error handling remains unchanged. The processes in the stove controls remain unchanged. The additional function is the display of component specific error codes.

The system recognizes four error conditions:

- a) **ER0 = low limit switch triggers when exhaust gas temperatures fall below minimum allowed:** This condition causes termination of fuel feed and initiation of shutdown. Total shutdown time from error trigger will be approximately 8-minutes.
- b) **ER1 = conflicting or incorrect min/max auger feed parameters (S1/S2 in the FU1 profile, S5/S6 in the FU2 profile):** This condition causes termination of fuel feed and shutdown. Unit will appear to run normally but will ultimately result in low limit trigger as exhaust gas temperatures decrease. Low limit trigger will then initiate shutdown. Total shutdown time could be up to an hour but no less than 8-minutes.
- c) **ER2 = high limit switch triggers due to excessive temperature on the back side of the firebox:** This condition causes termination of fuel feed and shutdown. Unit will appear to run normally but will ultimately result in low limit trigger as exhaust gas temperatures decrease. Low limit trigger will then initiate shutdown. Total shutdown time from hi-limit trigger is variable but will likely last up to an hour or more to allow time for sufficient cooling. If a hi-limit trigger occurs, the stove should be inspected and cause determined by a qualified service technician prior to subsequent use.
- d) **ER3/ER4 = Air sensor incident triggers if the air supply becomes irregular, as measured by the air sensor:** Upon trigger, fuel feed will stop. If air regulation recovers within an allowable time, fuel feed resumes. If air regulation does not recover, fuel feed remains off ultimately causing a low limit trigger leading to initiation of shutdown. Total shutdown time due to an un-recoverable air incident could be up to an hour but no less than 8-minutes. (ER4 display was removed in software v1.42)

Summary of error messages.

Er0	Error due to Low Limit trigger – low exhaust gas temperature (missing pellets, fire has gone out...)
Er1	Error due to conflicting feed auger parameters (contradicting S1 & S2)
Er2	Error due to High Limit trigger – overheat detected
Er3	Error due to sudden or unrecoverable air flow change (door open, burn pot dirty, blocked air intake or exhaust air outlet...)
Er4	Air flow too low, compensation by increase of the combustion fan rpm's will result. (this error code was removed in v1.42)

Increased Convection Fan Capability

The user now has the option to increase the pre-set output of the convection fan. This is controlled via a new CF parameter (for navigation to this setting, see User Interface Control Flow Chart on page-4 of this guide).

The range of values of the new parameter is 100 to 150, whereby 100 [100%] stands for software controlled normal convection fan operation based upon selected heat output level. The convection fan can be increased up to 150% of normal operation and will maintain at that setting until changed by the user.

Pre-set operating mode for different pellet quality

The user now has the option to select a second configuration profile to facilitate the use of lower grade fuel. A new Fuel Use or "FU" parameter has been created for this function. (for navigation to this setting, see User Interface Control Flow Chart on page-4 of this guide).

The values of this new parameter are:

- FU1 – default factory setting for good quality fuel.
- FU2 – alternate low fuel quality setting. This setting is also appropriate to use when additional base level combustion fan is required.

NOTE: Each FU profile has a completely separate set of password protected control parameters which are defined further on page-5 of this guide.

The FU2 profile raises the combustion fan speed minimums:

- G5 = 150 (1500rpm) minimum combustion fan speed at 0% output.
- G6 = 250 (2500 rpm) minimum combustion fan speed at 100% output.

In addition to the minimum combustion fan speed changes, the FU2 setting has a shorter 45-minute interval between "CL" cleaning cycles, as opposed to the 60-minute factory default under the FU1 setting. (for navigation to this setting, see User Interface Control Flow Chart on page-4 of this guide).

Other changes

To accommodate the introduction of the new FU Fuel Use settings, a separate set of control parameters has been created in the password protected technician service menu. These parameters can be manually adjusted by a technician at any time. A full listing of control parameters for each FU Fuel Use profile can be found on page-6 of this guide.

Introduction of control parameter L3/L7

Beginning with software V1.42, a new parameter has been added to the password protected tech level service menu. The new parameter is L3 under the FU1 control set, and L7 under the FU2 control set. The Default value of this parameter is 2-minutes.

This new parameter controls the length of time the auger motor will pause in the event of an air sensor event as indicated by an ER3 or an ER4.

If an air sensor event occurs the auger will pause. If the event can be resolved within the time defined in L3/L7, auger feed will resume. If the event cannot be resolved within that designated amount of time, auger feed will stay off and the stove will ultimately begin shutting down due to an eventual trigger of the low limit sensor.

Low voltage thermostat compatibility

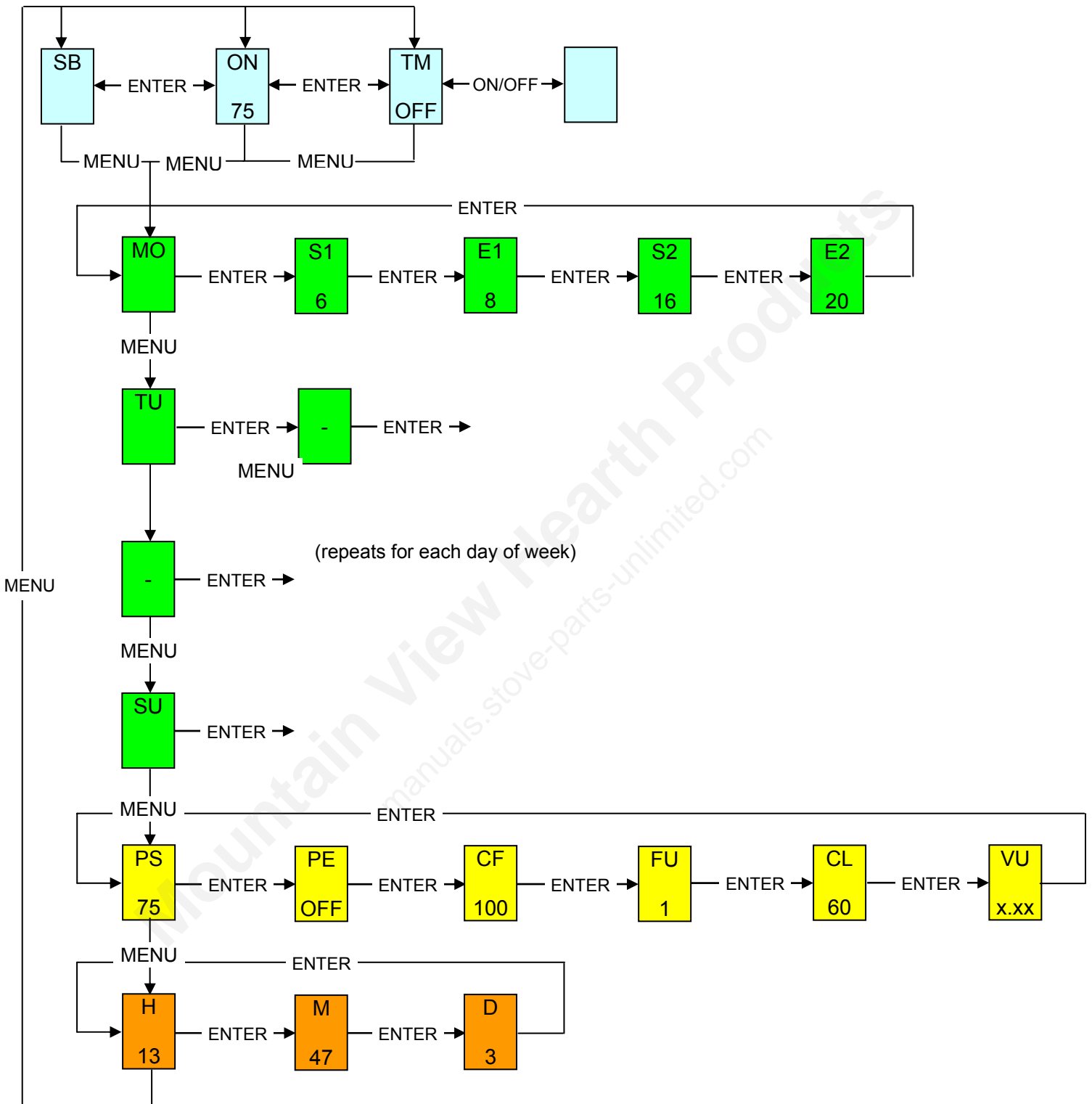
Beginning with stoves manufactured in the summer of 2009, all RIKA pellet stoves will be fitted and come "out of the box ready" with an updated control board and corresponding software designed to allow the consumer the ability to attach and control their stove via a low-voltage style thermostat. Compatible control boards will come with a Revision-1 designation. Non-compatible boards will come with a Revision-0 designation.

The corresponding control software will be designated beginning with a v2.xx revision number scheme. The first revision number introduced will be v2.35.

Compatible boards will come with a new two-pin connection in plug position #9 on the DC side of the board.

Stoves manufactured prior to the summer of 2009 can be retro-fitted via a board swap-out once the parts and corresponding software become available from the Manufacturer, and will be available for dealer purchase at that time.

User Interface Control Flow Chart



Default Factory Control Parameters

Value	Settings range	Default Visio / Premio	Default Integra	Description
FU1 Fuel Profile				
S1	1 -35	.8	.9	min. auger pulse, display in 1/10 sec., with comma
S2	1 -35	2.9	3.3	max. auger pulse, display in 1/10 sec., with comma
R1	0 -60	1	1	delay in initiating shutdown cycle / final cleaning, display in min
R2	0 -255	120	120	duration of final cleaning, display in sec
N1	0 -255	5	5	duration of cool down phase, display in sec
Z1	0 -60	12	12	duration of ignition cycle, display on min
A1	0 -60	21	21	duration of start-up cycle, display in min
G1	100 - 3000	80	110	min rpm of combustion fan at lowest setting, display in multiples of 10
G2	100 - 3000	170	190	max rpm of combustion fan at highest setting, display in multiples of 10
G3	1 -100	30	40	band width of combustion fan in % of relative minimum
L1	1 -20	.8	1.6	min air flow in 1/10m/sec, display in 1/10 with comma
L2	1 -20	1.7	2.0	air flow value 1/10m/sec, at which regular operation resumes, display in 1/10 with comma
L3	0-5	2	2	max auger pause time during air sensor event (ER3 or ER4) (added in version 1.42)
FU2 Fuel Profile (present on stoves operating under software v1.33 and higher)				
S5	1 - 35	.8	.9	Min. auger pulse, display in 1/10 sec., with comma
S6	1-35	2.9	3.3	max. auger pulse, display in 1/10 sec., with comma
R5	0 - 60	1	1	delay in initiating shutdown cycle / final cleaning, display in min
R6	0 - 255	120	120	duration of final cleaning, display in sec
N5	0 - 255	5	5	duration of cool down phase, display in sec
Z5	0 - 60	12	12	duration of ignition cycle, display on min
A5	0 - 60	21	21	duration of start-up cycle, display in min
G5	100 - 3000	130	150	min rpm of combustion fan at lowest setting, display in multiples of 10
G6	100 - 3000	210	250	max rpm of combustion fan at highest setting, display in multiples of 10
G7	1 -100	30	40	band width of combustion fan in % of relative minimum
L5	1 -20	.8	1.6	min air flow in 1/10m/sec, display in 1/10 with comma
L6	1 -20	1.7	2.0	air flow value 1/10m/sec, at which regular operation resumes, display in 1/10 with comma
L7	0-5	2	2	max auger pause time during air sensor event (ER3 or ER4) (added in version 1.42)

Adjusting the Convection Fan Speed value (CF)

While in normal operation, press the MENU button until the PS function displays

1. Press ENTER until the CF function displays
2. Press the + or – (plus or minus) keys to change the value to between 100 and 150
3. Press ENTER to lock in the selection

Activating the Alternative Fuel Use Profile 2 (FU2) (software v1.33 or higher)

4. Press the + or – (plus or minus) keys to change the value to 2
5. Press ENTER to lock in the selection
6. Press the MENU button two times to exit back to normal operation

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