Honeywell | Engineered to Order

COMPLETE COMBUSTION SOLUTIONS

Powered by SLATE™

Boiler Applications

COMBUSTION SOLUTIONS
POWERED BY SLATE

Honeywell has been your go-to resource for best-in-class combustion components for decades. Now, that legendary quality is available in a complete solution. Whether you have a boiler installed on-site or you are one of the many industry professionals who help keep your customers up and running, Honeywell is your one-stop shop when it's time for a boiler upgrade or controls replacement.

DISTRIBUTORS / CONTRACTORS:

Your customers depend on you to keep their equipment running safely, efficiently and productively. Because you know the ins and outs of the boiler systems you sell and service, you're in an ideal position to recommend the optimal time for an upgrade or replacement. The Honeywell Engineered to Order team can help.
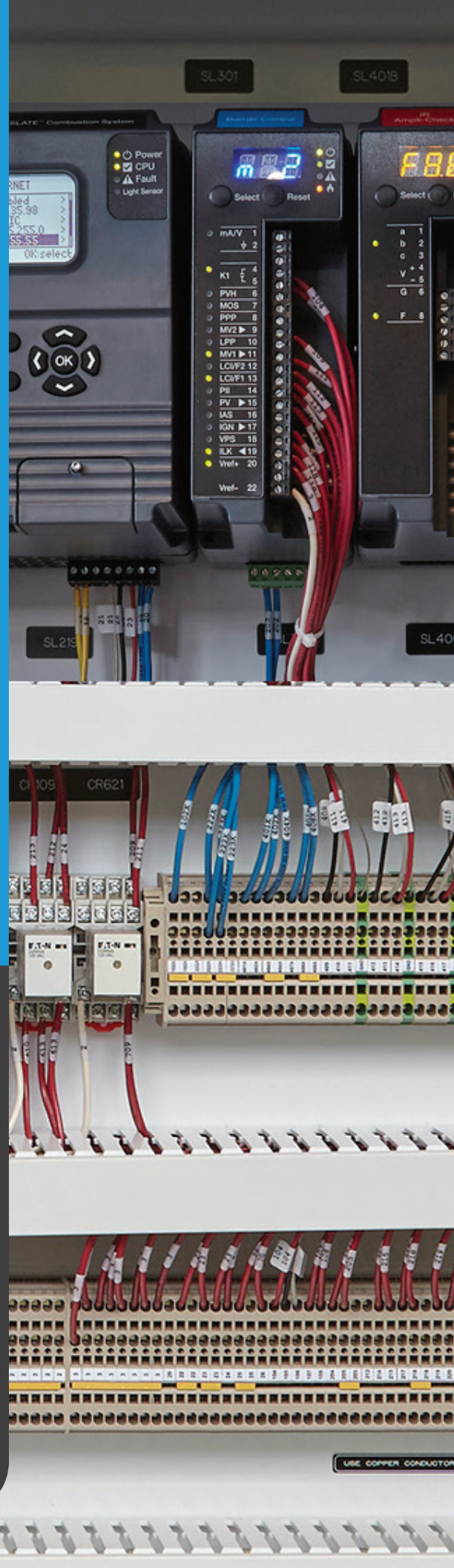
END USERS:

With aging boiler systems, downtime is more frequent, the cost of maintenance and repairs goes up, and safety and compliance become a greater risk – all of which can impact budgets that are already under greater scrutiny. The Honeywell Engineered to Order team can help.

A TURN-KEY SOLUTION
THAT STREAMLINES AND SIMPLIFIES

This solution is a pre-wired, fully assembled boiler control system for commercial and industrial boiler applications ideal for 10M to 100M BTU that comes complete with a panel, program display screen and the ability to add single- or dual-fuel pipe trains with custom mounting arrangements.

Using SLATE's revolutionary integration of safety and programmable logic in a single, powerful platform, this solution significantly streamlines and simplifies the install, start-up and commissioning process – so you can get your customers up and running more quickly and easily.

STANDARD
CONFIGURED OPTIONS

CONTROL PANEL

– SLATE control pre-programmed with boiler-specific logic:
  - Fuel air ratio control with O2 trim
  - Limits for stack temp
  - Valve proving
  - Compliance with NFPA 85 and ASME CSD-1

– 7" or 15" color touchscreen display with enhanced graphics

– Enclosure: Type 12, 4 or 4X

– Class I Div 2 options

BOILER SOFTWARE OPTIONS

– Hot standby

– Light-off hold

– Forced rate

– Assured low-fire cut-off

– Outdoor temperature compensation

– Flue gas recirculation

– Multiple fuel configurations

HARDWARE OPTIONS

– O2 sensors in 8", 15" and 23" lengths

– Actuators from 50 to 900 in-lbs and optional Class I Div 2, factory-calibrated to valves from 0.5" in size for low flow up to 18" butterfly-wafer style

– Variable frequency drives (VFDs) ranging from 3 to 30 HP

– Flame sensor options that include IR, UV and shutter-check

– Numerous pressure and temperature sensor and limit options

PRE-WIRED.
FULLY ASSEMBLED.
TESTED.
READY TO GO, RIGHT OUT OF THE BOX.

We will work with you to configure your Combustion Solution Powered by SLATE to your specific needs, then build it and test the system before delivering it to your job site.

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ONE SOLUTION WITH MANY
VALUABLE BENEFITS

Combustion Solutions | Powered by SLATE helps you and your customers get more done in less time – with a lot less complexity.

FASTER INSTALL, START-UP AND COMMISSIONING

Pre-programmed: the solution comes pre-programmed with all necessary boiler-specific logic and functionality, reducing install time.

Factory-wired and tested: all systems are fully wired and function-tested before shipment, ensuring smooth, start-up and commissioning.

One supplier and one PO: it's one complete, fully-integrated boiler solution from Honeywell, which means it's just one relationship to manage versus keeping track of multiple vendors, multiple SKUs and multiple POs.

Comprehensive support: we can provide expert installation, start-up and commissioning services for you, and provide training.

SAFER, MORE EFFICIENT OPERATION

Enhanced safety and code compliance: meets the latest codes and standards including NFPA 85, ASME CSD-1 and CSA, helping ensure safe operation.

Greater energy efficiency: the fuel air ratio control includes precision valves and actuators, VFDs and the ability to trim stack O2, giving the boiler higher turndown, minimizing cycling and delivering optimal performance.

Reduced emissions: the fuel air ratio control also helps control burner performance for the cleanest burn possible, helping reduce greenhouse gas emissions.

BETTER MONITORING AND EASIER TROUBLESHOOTING

Seamless integration with BAS: built-in BACnet and Modbus services enable easy connection with building automation systems, providing easy access to current boiler status information.

Remote troubleshooting: customers can remotely access the system via web services or a mobile device using an IP address, helping them monitor and troubleshoot from anywhere.

Intuitive touchscreen interface: simple, easy-to-understand messages and graphics help technicians make more timely, informed decisions.

TRAINING AND SUPPORT

No installation experience? No problem. Our technical staff can facilitate training sessions that cover everything from install, start-up and commissioning to post-install operation and maintenance – helping you become a true end-to-end solutions partner for your customers.

– **Expert training** – we can facilitate training sessions for you and your team to ensure safe install, operation and maintenance.

– **Post-install support** – our technical staff are also available to help troubleshoot any issues that arise after install and day-to-day operation.

– **Safety services** – our safety professionals have experience with all types of fuel-fired systems across numerous industries and can provide expert consulting, customized training, engineering and field services, testing, inspections, safety audits and gas hazard management.

WHY HONEYWELL?

– **Consultative sales team** – our dedicated sales professionals can help you configure a boiler solution that meets your project, budget and delivery criteria.

– **Unmatched engineering expertise** – our engineers have decades of experience in the commercial and industrial combustion space, and will work with you to design a system that's built to the highest specifications.

– **State-of-the-art technical centers** – you and your team can see a variety of installed solutions and live-fire demos in-person at our facilities in Muncie, IN and Rockford, IL.

SIMPLE
CONFIGURATION PROCESS

Honeywell functions like an extension of your business and your team, working with you every step of the way – from design to delivery and beyond. We can even help you evaluate potential boiler replacement opportunities to see if Complete Combustion Solutions | Powered by SLATE is a good fit.

A Honeywell sales engineer will work with you to configure your solution and provide a quote – in just minutes. Need something more custom? We can do that, too. Our engineers are happy to help you concept and quote whatever you need.

CONFIGURATION WORKSHEET

This worksheet contains all of the configuration options. Don't worry about completing this yourself – your Honeywell sales engineer will work with you to determine what you need based on your opportunity.

Number of Boilers:

Size (MMBTU/HR):

Boiler (make & model):

Boiler Tag:

Burner (make & model):

Fuel 1 Line Pressure (PSI):

Fuel 1 Valves (make & model) and Year:

Fuel 2 Line Pressure (PSI):

Fuel 2 Valves (make & model) and Year:

Panel (make & model) and Year:

PANEL HARDWARE

PANEL CONTROL OFFERING
1   FARC, O2 Trim

PROCESS CONTROL
1   Steam Pressure _____ PSI
2   Water Temperature _____ DEG F

INCOMING PANEL VOLTAGE
1   120VAC

PANEL CONTROL VOLTAGE
1   120VAC

NUMBER OF FUELS
1   Single Fuel
2   2 Fuel, Gas
3   2 Fuel, Gas and #2 Oil
4   2 Fuel, Gas and #6 Oil

ENCLOSURE
1   Type 4
2   Type 4X
3   Type 12

HMI
1   7" Type 1
2   15" Type 4
3   15" Type 4 C1D2

FLAME AMP MODULE
1   IR AMP with AMPLI-Check
2   UV AMP with AMPLI-Check
3   UV AMP with Shutter-Check
4   UV / Visible AMP with AMPLI-Check

PANEL ALARM INDICATION
0   None
1   Alarm Horn
2   Alarm Horn C1 D2
3   Alarm Horn and Alarm Light
4   Alarm Horn and Silencer Switch
5   Alarm Light

CLASS 1 DIV 2 PURGE
0   None
1   1002-WPS-CI-YZ-LH

CABINET COOLER
0   None
1   EXAIR 418SS

BOILER CONFIGURATION AND SOFTWARE

ANNUNCIATION
11 pre-programmed with:
Operational P/T Limit
High P/T Limit
Low Water Cut Off
Emergency Stop
Fuel 1 Low Pressure
Fuel 1 High Pressure
Fuel 2 Low Pressure
Fuel 2 High Pressure
Low Low Water Cut Off
Air Flow
Proof of Closure

Three may be customized:
_____
_____
_____

STACK TEMP LIMIT CONTROL
0   Not Applicable
1   Shutdown - At Install
2   Reduce Rate - At Install

O2 TRIM ENABLE
0   Not Applicable
1   Field Adjust

HOT STANDBY
0   Not Applicable
1   At Install

LIGHT-OFF HOLD ENABLE
0   Not Applicable
1   At Install

FORCED RATE
0   Not Applicable
1   At Install

ASSURED LOW FIRE CUTOFF
0   Not Applicable
1   At Install

OUTDOOR TEMP COMPENSATION
0   Not Applicable
1   At Install

VFD ENABLE
0   Not Applicable
1   At Install

VPS ENABLE
0   Not Applicable
1   Fuel 1 - At Install
2   Fuel 2 - At Install
3   Fuel 1 & 2 - At Install

FLUE GAS RECIRC (FGR)

0   Not Applicable
1   Applicable

FEED WATER CONTROL

0   Not Applicable
1   Single Element (Future)
2   Dual Element (Future)

WIRESHEET/WEB PROGRAM

1   V1.0

ASSOCIATED HARDWARE

O2 TRIM SENSOR

0   None
1   8" Probe
2   15" Probe
3   23" Probe

ACTUATOR OPTIONS (UP TO FOUR)

0   None
3   SLATE 50# NEMA 4 Enc
4   SLATE 150# NEMA 4 Enc
7   SLATE 50# NEMA 4 Enc w/Brkt
8   SLATE 150# NEMA 4 Enc w/Brkt
10 0100 S DSCV
11 0125 S DSCV
12 0150 S DSCV
13 0200 S DSCV
14 0250 S DSCV
15 0300 S DSCV
16 0400 S DSCV
17 0600 S DSCV
18 0800 S DSCV
19 1000 S DSCV
20 1200 S DSCV
21 1400 S DSCV
22 1600 S DSCV
23 1800 S DSCV
24 DS CA (SmartLink DS Control Actuator)
25 DS North American Adj Port Valve (Future)

COMBUSTION AIR SWITCH

0   None
1   HWELL 3"-21" LP SW MAN
2   HWELL 3"-21" LP SW AUT
3   DUNGS 2"-20" HI/LO SW Type 4
4   UE 2.5"-50" WC SW C1D2

VPS SWITCH

0   None
1   Hon 3"-21" LP SW MAN
2   Hon 3"-21" LP SW AUT
3   Dungs 2"-20" HI/LO SW Type 4
4   UE 2.5"-50" WC SW C1D2

FLAME SENSOR

0   None
1   Lead Sulfide LR Detector
2   HON UV Mini-Peeper
3   HON Self-Ck UV Scnr
4   HON SS Mini-Peeper
5   HON Ep Self-Ck UV Scnr

BOILER WATER TEMP

0   None
1   RTD 4-20MA 0-150F
2   RTD 4-20MA 0-250F
3   RTD 4-20MA 0-500F

STACK TEMP LIMIT

0   None
1   RTD 4-20MA 0-150F
2   RTD 4-20MA 0-250F
3   RTD 4-20MA 0-500F

OTC SENSOR

0   None
1   RTD 4-20MA 0-150F
2   RTD 4-20MA 0-250F
3   RTD 4-20MA 0-500F

HIGH BOILER P/T LIMIT

0   None
1   HI LMT Control 2-15PSI
2   HI LMT Control 10-150PSI
3   HI LMT Control 20-300PSI
4   MODLTG/LMT CTL 0-15PSI
5   MODLTG/LMT CTL 0-150PSI
6   MODLTG/LMT CTL 0-300PSI
7   On/Off LMT CTL 0-15PSI
8   On/Off LMT CTL 0-150PSI
9   On/Off LMT CTL 0-300PSI

HIGH OPERATIONAL P/T SENSOR

0   None
1   Auto Recycle 10-50PSI
2   Auto Recycle 10-150PSI
3   Auto Recycle 20-300PSI
4   HI LMT CTL 2-15PSI
5   HI LMT CTL 10-150PSI
6   HI LMT CTL 20-300PS
7   On/Off LMT CTL 0-15PSI
8   On/Off LMT CTL 0-150PSI
9   On/Off LMT CTL 0-300PSI
10 MODLTG/LMT CTL 0-15PSI
11 MODLTG/LMT CTL 0-150PSI
12 MODLTG/LMT CTL 0-300PSI

VFD

0   None
1   208VAC, 3 HP Type 1
2   208VAC, 7.5 HP Type 1
3   208VAC, 15 HP Type 1
4   208VAC, 25 HP Type 1
5   208VAC, 30 HP Type 1
6   240VAC, 3 HP Type 1
7   240VAC, 7.5 HP Type 1
8   240VAC, 15 HP Type 1
9   240VAC, 25 HP Type 1
10 240VAC, 30 HP Type 1
11 480VAC, 3 HP Type 1
12 480VAC, 7.5 HP Type 1
13 480VAC, 15 HP Type 1
14 480VAC, 25 HP Type 1
15 480VAC, 30 HP Type 1
16 208VAC, 3 HP Type 12
17 208VAC, 7.5 HP Type 12
18 208VAC, 15 HP Type 12
19 208VAC, 25 HP Type 12
20 208VAC, 30 HP Type 12
21 240VAC, 3 HP Type 12
22 240VAC, 7.5 HP Type 12
23 240VAC, 15 HP Type 12
24 240VAC, 25 HP Type 12
25 240VAC, 30 HP Type 12
26 480VAC, 3 HP Type 12
27 480VAC, 7.5 HP Type 12
28 480VAC, 15 HP Type 12
29 480VAC, 25 HP Type 12
30 480VAC, 30 HP Type 12

VFD FEEDBACK

0   None
1   Tach

GET STARTED TODAY

Let's talk about how we can help you maximize your business opportunities with Complete Combustion Solutions Powered by SLATE. Contact your local Honeywell sales engineer to learn more.

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