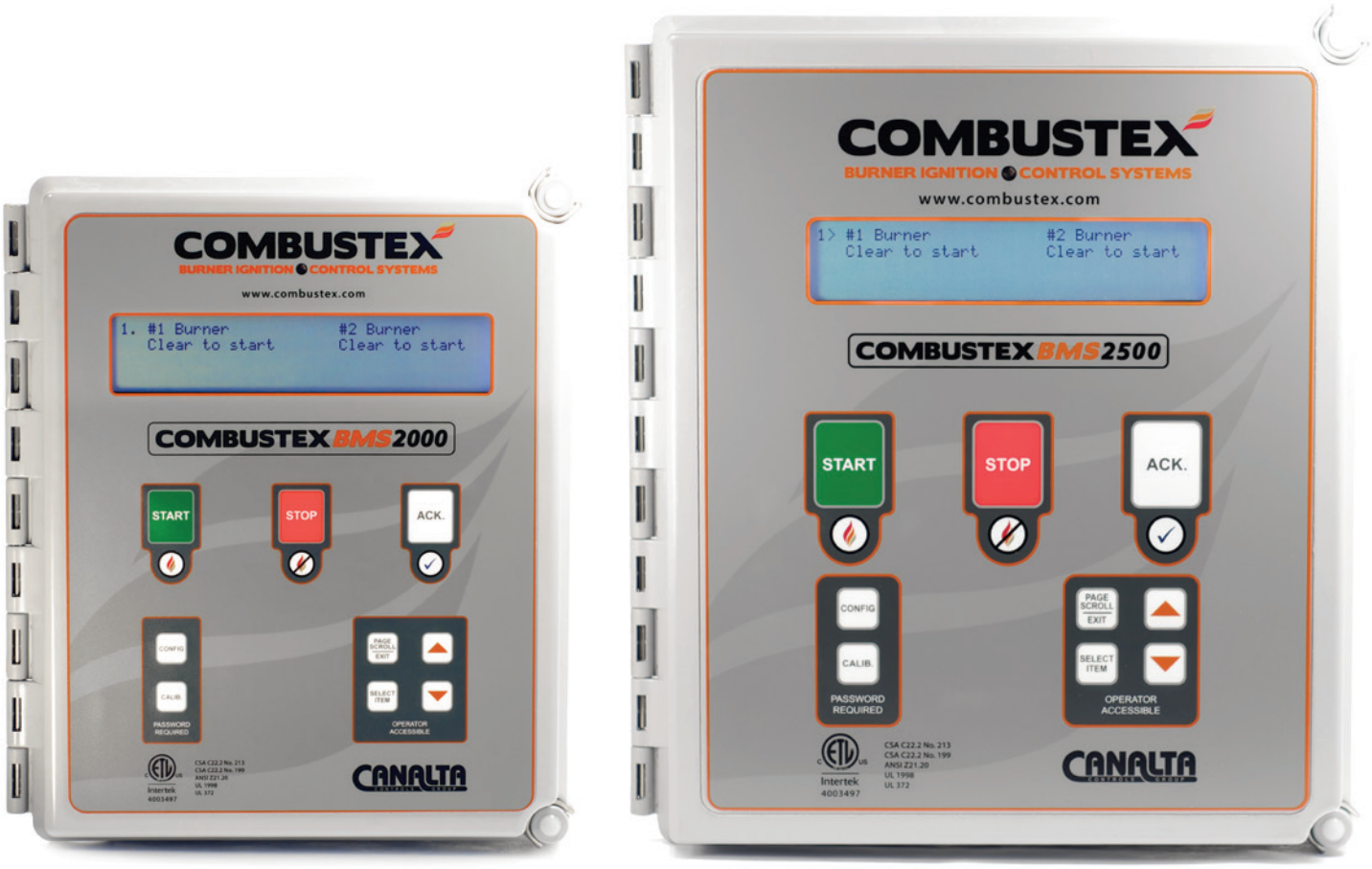
COMBUSTEX

BURNER IGNITION & CONTROL SYSTEMS

A Canalta Controls Company



The Combustex Burner Management System

BMS-2000 Series Heater Controllers

Powerful, Flexible B149.3 Compliant Burner Control

MICROWATT
Making Safety Work

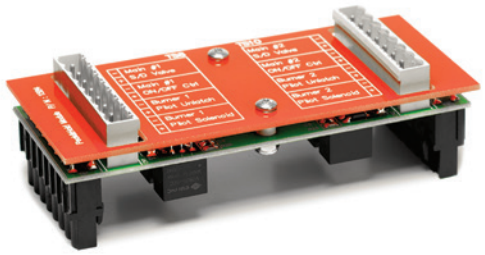
CANALTA CONTROLS GROUP

With the BMS-2000, You Have Exceptional Control

The BMS-2000 Series Burner Management System gives you the automated control to safely start, monitor and manage a single or dual burner gas-fired industrial heater.

- Calibrate, tune and configure more than 60 parameters and variables via the front keypad.
- Maintain system security through password protection.
- Access a wide selection of sequencing, monitoring and control information through easy page scrolling on the heated, back-lit display.
- Gain flexibility with remote and local start / shutdown / set point capabilities.
- Take control of shutdowns with first out annunciation and a direct readout of shutdown conditions.

With Control Comes Safety

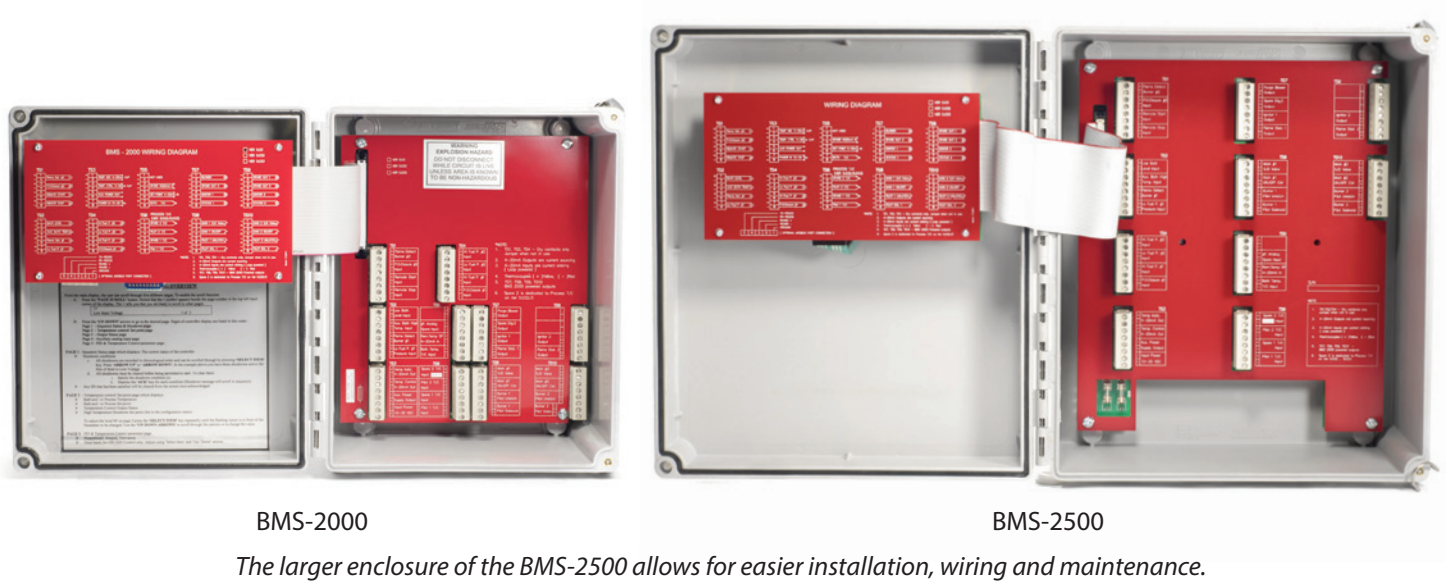


The BMS-2000 Series Burner Management System is now available with an all new plug-in low power solenoid module for peak and hold applications.

Automatic Sequencing Features

- Single or dual burner control *(in conjunction or independent)*
- Auto relight sequence set to up to three retry attempts *(or deselected)*
- Configurable pre- and post-purge times, auxiliary blower with confirmation and prepurge
- Configurable dual set point thermocouple operation, flame ionization detection and/or U.V. detection
- Ignition output signal can be configured as steady or pulsed
- Adjustable startup bypass timers
- Wide variety of configurable safety interlock devices
- Configurable remote start / stop
- Configuration settings are password-protected and stored in non-volatile memory
- Configurable auto-startup after power failure
- Configurable intermittent or standing pilot

The BMS-2000 Series heater controllers are at their most powerful when the single or dual burner system incorporates ***Pilot Pro™ Ignition Assemblies***. These igniters are designed and built around the features of the BMS-2000 and provide the operator with significant control both at the BMS-2000 keypad and in the control room.



BMS-2000 BMS-2500

The larger enclosure of the BMS-2500 allows for easier installation, wiring and maintenance.

Shutdown Annunciation Features

A first out annunciator is built in with direct readout of the shutdown conditions. Each shutdown condition is marked with its chronological incoming position and must be acknowledged and cleared before startup can be initiated.

Available Standard and Configurable Shutdown Conditions:

- Flame failure - Burner #1
- Flame failure - Burner #2
- Flame failure during auto-relight
- Low voltage input
- Bath high temperature
- Remote shutdown
- Low bath level
- Stack #1 high temperature
- Stack #2 high temperature
- Local manual shutdown
- Auxiliary flame failure
- Low fuel gas pressure - Burner #1
- Low fuel gas pressure - Burner #2
- High fuel gas pressure - Burner #1
- High fuel gas pressure - Burner #2
- Purge blower failure
- Thermocouple failure
- Proof of closure - Burner #1
- Proof of closure - Burner #2

Temperature Control Features

The BMS controller is available as a single or dual temperature control version. The dual temperature control version can be configured so that the controls work completely independent of each other, or with one controller over-riding the other. Control can be primarily selected between ON/OFF with adjustable dead band or PID (Proportional with Integral and Derivative). Dead band and PID parameters are adjustable for tuning and are password-protected. The operator can select between auto / manual and remote / local set point. Remote temperature indication output and temperature set point input are configurable. Bath temperature set point and high limit are locally displayed and easily accessible.

Technical Specifications

Enclosure Dimensions	10.5" H, 8.5" W, 6" D (2000) / 12.5" H, 10.75" W, 6.125" D (2500)
Enclosure Construction	Molded Fiberglass Polyester with Quick Release Latches
Operating Temperature	- 40°C to + 40°C (-40°F to +104°F)
Inputs	(12) Digital Solid State; (2) Analog 4-20mA; (5) Thermocouple Type K Underground Cold Junction Compensated
Outputs	(16) 12-30 VDC Digital Solid State Optical Isolated (1.5A each) (2) Analog 4-20mA 500 Ohm (max.)
Power Supply	12 to 30 VDC Clean Filtered
Current Draw	80 mA (min), 160 mA (typical), 300 mA (max) for Electronics + LCD Backlight + Display Heater. Current draw of solenoids and other devices driven by BMS will have to be added to above to calculate total. Total current draw not to exceed 3A.
Display	Low Temp. Heated LCD
Mounting	Wall Mount Bracket Standard; 2" Pipe Mount Optional
Communication	Digital, Analog and Modbus

Standards & Certifications

ANSI Z21.20 - 2007
CSA C22.2 No. 199 - B149.3 Compliant
CSA 22.2 No. 213 - M1987
UL 1998
UL 372
Class 1, Div. 2 Groups B, C and D Haz. Loc.
Temp. Code T4
NEMA Type 4x

C ETL US LISTED
Intertek
4003497

Model Number Information

BMS $\frac{2000}{2500}$ D-W-T10-N-Y-N-T0-T2

BURNERS (FIRE TUBES)	
S	Single Burner
D	Dual Burner

MOUNTING	
W	Wall Mount
P	Pipe Mount

TEMP. CONTROL OUTPUT OPTIONS	
T00	No Temp. Control
T10	ON/OFF Control
T1P	4-20mA PID Control
T20	ONOFF with High/Low Select Control
T2P	(2) 4-20mA PID with High/ Low Select Control

ANALOG 4-20mA INPUTS	
N	None
R	Remote Set Point
S	Spare
B	Both R & S

SPARE THERMOCOUPLE INPUTS	
T0	None
T1	1 Spare T/C Input
T2	2 Spare T/C Inputs

FLAME T/C INPUTS (IF REQUIRED)	
T0	None (Contact Input)
T1	Pilot 1
T2	Pilot 1 & 2

MODBUS OPTION	
N	No
Y	RS232 / 485 Modbus RTU

BATH TEMP. REMOTE 4-20mA OUTPUT	
N	No
Y	Remote Bath Temp. Indication

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