

## Specifications

### Premier-Line Control Panels

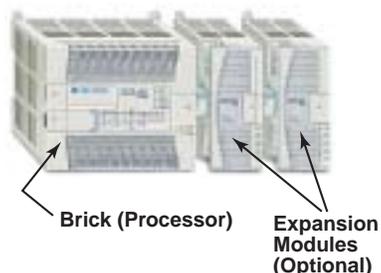
#### Combustion Series

Maxon's "Premier Line" Combustion Control Panels feature Yokogawa UT-350 controllers and UT-150L High Temperature limits. Enclosure size is approximately 30" x 30" x 8".

#### "Premier-Line" Combustion Control Panels include:

*(Please specify input voltage, motor size, and thermocouple type)*

- Motor Starting (up to 5 HP at 460V) fusing and overloads included
- Control Transformer
- Disconnect with Pistol-Type Handle
- Hoffman NEMA 12/13 or NEMA 3R Enclosure
- Circuit Breaker/Toggle switch to 120V power
- FM-approved High Temperature Limit
- Temperature Control with the following features:
  - (2) Digital Inputs
  - (3) Alarms with 14 different alarm types
  - Retransmission of PV or SP included
  - Universal Output (set for proportional 4-20mA)
- Flame supervision provided by Honeywell RM7890A-1015 for use with UV scanner (included) or Flame Rod (not included)
- Indicator Lights annunciate the following status:
  - Interlocks Proven
  - Purging
    - Drive to High Position
  - Purge Complete
    - Drive to Low Position
  - Pilot On
  - Alarm Horn
    - Main Flame Established
      - Main Flame Stabilization
- Cage Clamp-Style Terminal Blocks (screw-less terminal blocks)
- An integrated control system with the following functions:



**Allen Bradley Micrologix 1200  
(expandable PLC) Integrated Logic Control**

- The system will force a re-purge of the combustion chamber upon flame out condition and upon each burner on/off cycle. The re-purge feature is in accordance with NFPA 86 guidelines (NFPA 86 5-4.1.5).
- Adjustable Purge timing can be altered with the 3 inputs designated for this use. Installing jumpers between line and the corresponding inputs will provide different purge timings. The system will lock in the purge timing after 10 complete cycles and allow no further adjustments. Time adjustments can be made in intervals up to 17 minutes. The factory pre-set will be with no jumpers installed (17 minute duration).

#### **Purge interval examples:**

*.5 min., 1 min., 3 min., 5 min., 7.5 min., 10 min., 15 min., 17 min.*

- The control system will perform the logic required to confirm high position purge and operate the control valve to force a high fire position. The system will also perform low position start logic and hold the burner at low fire until the pilot interrupt timing is complete.
  - Maxon Standard "Proven" Low Position Start
  - High Position Purge is optional (Bypassed with Jumper)
    - When High Position purge is not used, it is the end user's responsibility to ensure that purging air flow at the low fire position is timed in accordance with NFPA 86 5-4.1.2.
- The control system will enable the flame safeguard operation "call for heat" and provide Pilot Interrupt timing (12 seconds).
- 1st Out annunciation is included.
  - The Alarm indication (red light) is set-up to blink in repeating steps to indicate where the fault occurred.

Steady — FSG Flame Out Alarm

1 blink, 2 second pause — Low Air Pressure

2 blinks, 2 second pause — Low Gas Pressure

3 blinks, 2 second pause — High Gas Pressure

4 blinks, 2 second pause — High Temp Limit

5 blinks, 2 second pause — Customer Interlock

- Flame Out Audible Alarm with silence feature

**NOTE: The PLC logic is locked by password and cannot be altered.**

## Specifications

### Premier-Line Control Panels

**Available options included:**

- Integrated control allows for use of communications to transfer burner information to customer-supplied DCS systems. Protocols and other networking features are available upon request. Controller networking options are available at additional cost. (See diagram below.)
- Data acquisition is available in conjunction with the UT-350 with communication adder. The data acquisition system operates through the use of a customer-supplied PC. Contact Maxon for more information.

## Specifications

### Premier-Line Control Panels

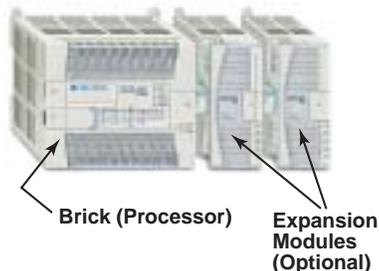
#### Intermediate Series

Maxon's "Premier-Line" Intermediate control panels feature Yokogawa UT-350 controllers and UT-150L High Temperature limits. Enclosure size is approximately 20" x 20" x 8".

#### "Premier-Line" Intermediate Control Panels include:

*Please specify Thermocouple type*

- Hoffman NEMA 12/13 or NEMA 3R Enclosure
- Circuit Breaker /Toggle switch to control panel power
- FM Approved High Temperature Limit
- Temperature Control with the following features:
  - (2) Digital inputs
  - (3) Alarms with 14 different alarm types
  - Retransmission of PV or SP included
  - Universal Output (set for proportional 4-20mA)
- Flame Supervision provided by Honeywell RM7890A-1015 for use with UV Scanner (included) or Flame Rod (not included)
- Indicator Lights annunciate the following status:
  - Interlocks Proven
  - Purging
    - Drive to High Position
  - Purge Complete
    - Drive to Low Position
  - Pilot On
  - Main Flame Established
    - Main Flame Stabilization
- Cage Clamp-Style Terminal Blocks (screw-less terminal blocks)
- An integrated control system with the following functions:



**Allen Bradley Micrologix 1200 (expandable PLC)  
Integrated Logic Control**

- The system will force a re-purge of the combustion chamber upon flame out condition and upon each burner on/off cycle. The re-purge feature is in accordance with NFPA 86 guidelines (NFPA 86 5-4.1.5).
- Adjustable Purge timing can be altered with the 3 inputs designated for this use. Installing jumpers between line and the corresponding inputs will provide different purge timings. The system will lock in the purge timing after 10 complete cycles and allow no further adjustments. Time adjustments can be made in intervals up to 17 minutes. The factory pre-set will be with no jumpers installed (17 minute duration).

#### **Purge Interval examples:**

*.5 min., 1 min., 3 min., 5 min., 7.5 min., 10 min.,  
15 min., 17 min.*

- The control system will perform the logic required to confirm high position purge and operate the control valve to force a high fire position. The system will also perform low position start logic and hold the burner at low fire until the pilot interrupt timing is complete.
  - Maxon Standard "Proven" Low Position Start
  - High Position Purge is optional (Bypassed with Jumper).
    - When High Position purge is not used, it is the end user's responsibility to ensure that purging air flow at the low fire position is timed in accordance with NFPA 86 5-4.1.2.
- The control system will enable the flame safeguard operation "call for heat" and provide Pilot Interrupt timing (12 seconds).
- 1<sup>st</sup> Out annunciation is included.
  - The Alarm indication (red light) is set-up to blink in repeating steps to indicate where the fault occurred.
    - Steady – FSG Flame Out Alarm
    - 1 Blink, 2 second pause – Low Air Pressure
    - 2 Blinks, 2 second pause – Low Gas Pressure
    - 3 Blinks, 2 second pause – High Gas Pressure
    - 4 Blinks, 2 second pause – High Temp Limit
    - 5 Blinks, 2-second pause – Customer Interlock
- Flame Out Audible Alarm with silence feature.

**NOTE: The PLC logic is locked by password and cannot be altered.**

## Specifications

### Premier-Line Control Panels

**Available options included:**

- Integrated control allows for use of communications to transfer burner information to customer-supplied DCS systems. Protocols and other networking features are available upon request. Controller networking options are available at additional cost. (See diagram below.)
- Data acquisition is available in conjunction with UT-350 with communication adder. The data acquisition system operates through the use of a customer-supplied PC. Contact Maxon for more information.

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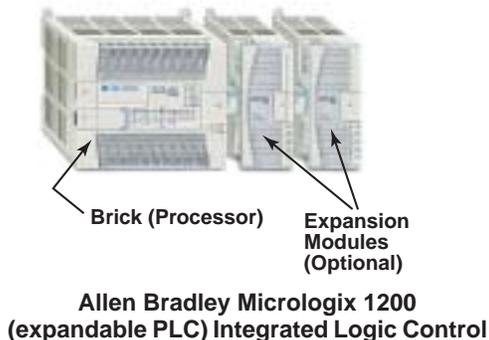
### Premier-Line Control Panels

#### Mini Series

Maxon's "Premier-Line" Mini control panels are assembled without Temperature Control or High Temperature Limit controllers. Enclosure size is approximately 20" x 20" x 8".

#### "Premier-Line" Mini Control Panels include:

- Hoffman NEMA 12/13 or NEMA 3R enclosure
- Circuit Breaker/Toggle switch to 120V power
- Flame supervision provided by Honeywell RM7890A-1015 for use with UV scanner (included) or flame rod (not included)
- Indicator lights annunciate the following status:
  - Interlocks proven
  - Purging
    - Drive to High Position
  - Purge Complete
    - Drive to Low Position
  - Pilot On
  - Main Flame Established
    - Main Flame Stabilization
- Cage Clamp-style terminal blocks (screw-less terminal blocks)
- An integrated control system with the following functions:



- The system will force a re-purge of the combustion chamber upon flame out condition and upon each burner on/off cycle. The re-purge feature is in accordance with NFPA 86 guideline (NFPA 86 5-4.1.5).
- Adjustable purge timing can be altered with the 3 inputs designated for this use. Installing jumpers between line and the corresponding inputs will provide different purge timings. The system will lock in the purge timing after 10 complete cycles and allow no further adjustments. Time adjustments can be made in intervals up to 17 minutes. The factory pre-set will be with no jumpers installed (17 minute duration).

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  - Maxon Standard "Proven" Low Position Start
  - High Position Purge is optional (Bypassed with jumper)
    - When High Position purge is not used, it is end user's responsibility to ensure that purging air flow at the low fire position is timed in accordance with NFPA 86 5-4.1.2.
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### Premier-Line Control Panels

**Available options included:**

- Integrated control allows for use of communications to transfer burner information to customer supplied DCS systems. Protocols and other networking features are available upon request. Controller networking options are available at additional cost. (See diagram below.)
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## Specifications

### Standard-Line Control Panels

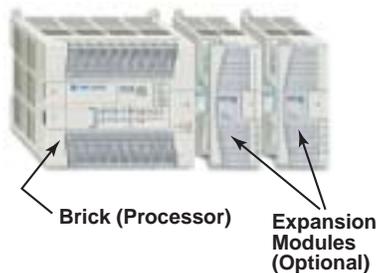
#### Combustion Series

Maxon's "Standard-Line" Combustion control panels feature Yokogawa UT-350 controllers and UT-150L High Temperature limits. Enclosure size is approximately 30" x 30" x 8".

#### "Standard-Line" Combustion Control Panels include:

*(Please specify input voltage, motor size, and thermocouple type)*

- Motor Starting (up to 5 HP at 460V) fusing and overloads included
- Control Transformer
- Disconnect with Pistol-Style Handle
- Hoffman NEMA 12/13 or NEMA 3R Enclosure
- Circuit Breaker /Toggle switch to 120V power
- FM Approved High Temperature Limit
- Temperature Control with the following features:
  - (2) Digital inputs
  - (3) Alarms with 14 different alarm types
  - Retransmission of PV or SP included
  - Universal Output (set for proportional 4-20mA)
- Flame Supervision provided by Honeywell RM7890A-1015 for use with UV Scanner (included) or Flame Rod (not included)
- Indicator Lights announce the following status:
  - Interlocks Proven
  - Purging
    - Drive to High Position
  - Purge Complete
    - Drive to Low Position
  - Pilot On
  - Main Flame Established
    - Main Flame Stabilization
- Cage Clamp-Style Terminal Blocks (screw-less terminal blocks)
- An integrated control system with the following functions:



**Allen Bradley Micrologix 1200  
(expandable PLC) Integrated Logic Control**

- The system will force a re-purge of the combustion chamber upon flame out condition and upon each burner on/off cycle. The re-purge feature is in accordance with NFPA 86 guidelines (NFPA 86 5-4.1.5).
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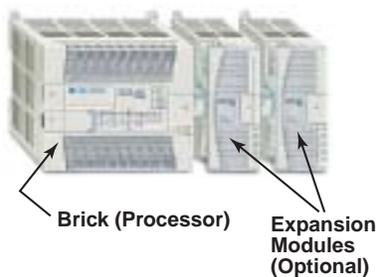
#### Intermediate Series

Maxon's "Standard-Line" Intermediate control panels feature Yokogawa UT-350 controllers and UT-150L High Temperature limits. Enclosure size is approximately 20" x 20" x 8".

#### "Standard Line" Intermediate Control Panels include:

*Please specify Thermocouple type*

- Hoffman NEMA 12/13 or NEMA 3R Enclosure
- Circuit Breaker /Toggle switch to control panel power.
- FM Approved High Temperature Limit
- Temperature Control with the following features:
  - (2) Digital inputs
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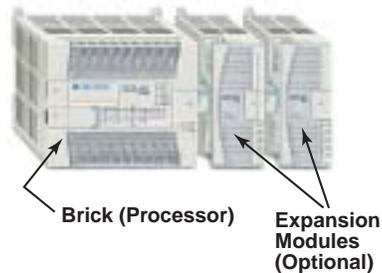
### Standard-Line Control Panels

#### Mini Series

Maxon's "Standard-Line" Mini control panels are assembled without Temperature Control or High Temperature Limit controllers. Enclosure size is approximately 20" x 20" x 8".

##### "Standard-Line" Mini Control Panels include:

- Hoffman NEMA 12/13 or NEMA 3R enclosure
- Circuit Breaker/Toggle switch to 120V power
- Flame supervision provided by Honeywell RM7890A-1015 for use with UV scanner (included) or Flame Rod (not included)
- Indicator lights annunciate the following status:
  - Interlocks proven
  - Purging
    - Drive to High Position
  - Purge Complete
    - Drive to Low Position
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- Data acquisition is available in conjunction with UT-350 with communication adder. The data acquisition system operates through the use of a customer supplied PC. Contact Maxon for more information.

## Specifications

### Value-Line Control Panels

#### Combustion Series

Maxon's "Value-Line" Combustion control panels feature Yokogawa UT-350 controllers and UT-150L High Temperature limits. Enclosure size is approximately 30" x 30" x 8".

##### Maxon "Value-Line" Combustion Control Panels include:

*Please specify input voltage, motor size, and thermocouple type*

- Hoffman NEMA 12/13 or NEMA 3R Enclosure
- Control Transformer
- 30 Amp Disconnect with Pistol-Style Handle
- Motor Starting (up to 5 HP at 460V) fusing and overloads included
- Circuit Breaker 120VAC
- Adjustable pilot interrupt and purge timers
- A re-purge relay is included to conform to NFPA 86.
- Low position start logic
- FM Approved High Temperature Limit
- Temperature Control with the following features:
  - (2) Digital inputs
  - (3) Alarms with 14 different alarm types
  - Retransmission of PV or SP included
  - Universal Output (set for proportional 4-20mA)
- Flame Supervision provided by Honeywell RM7890A-1015 for use with UV Scanner (included) or Flame Rod (not included)
- Indicator Lights annunciate the following status:
  - Interlocks Proven
  - Purging
  - Purge Complete
  - Pilot On
  - Main Flame Established
- Cage Clamp-Style Terminal Blocks (screw-less terminal blocks)

#### Intermediate Series

Maxon's "Value-Line" Intermediate control panels feature Yokogawa UT-350 controllers and UT-150L High Temperature limits. Enclosure size is approximately 20" x 20" x 8".

##### "Value-Line" Intermediate Control Panels include:

*Please specify Thermocouple type*

- Hoffman NEMA 12/13 or NEMA 3R Enclosure
- Adjustable pilot interrupt and purge timers
- A re-purge relay is included to conform to NFPA 86
- Low position start logic
- Circuit Breaker /Toggle switch to control panel power
- FM Approved High Temperature Limit
- Temperature Control with the following features:
  - (2) Digital inputs
  - (3) Alarms with 14 different alarm types
  - Retransmission of PV or SP included
  - Universal Output (set for proportional 4-20mA)
- Flame Supervision provided by Honeywell RM7890A-1015 for use with UV Scanner (included) or Flame Rod (not included)
- Indicator Lights annunciate the following status:
  - Interlocks Proven
  - Purging
  - Purge Complete
  - Pilot On
  - Main Flame Established
- Cage Clamp-Style Terminal Blocks (screw-less terminal blocks)

## Specifications

### Value-Line Control Panels

#### Mini Series

Maxon's "Value-Line" Mini control panels are assembled without Temperature Control or High Temperature Limit controllers. Enclosure size is approximately 20" x 20" x 8".

**"Value-Line" Mini Control Panels include:**

- Hoffman NEMA 12/13 Enclosure
- Circuit Breaker /Toggle switch to control panel power
- Adjustable pilot interrupt and purge timers
- A re-purge relay is included to conform to NFPA 86
- Low position start logic
- Flame Supervision provided by Honeywell RM7890A-1015 for use with UV Scanner (included)
- Indicator Lights annunciate the following status:
  - Interlocks Proven
  - Purging
  - Purge Complete
  - Pilot On
  - Main Flame Established
- Cage Clamp-Style Terminal Blocks (screw-less terminal blocks)

## Specifications

### Ship Loose Parts Packages



***Choices include:***

- Ignition Transformer with ignition wire and Rajah connectors
- (2) Type J or K Thermocouples  
Specify: Dry Air or Solution  
(Must specify T/C Type)
- Thermocouple Extension Wire (*not shown*)
- Honeywell Mod IV Control Motor
- Control Actuator Arm

## Specifications Controller Comparison

### 1/16th DIN Controllers:



**Honeywell UDC 1000**

*Standard Features:*  
 Universal Input (T/C, RTD)  
 Auto-Tuning  
 Auto and manual switching  
 Proportional Output  
 Dual Display



**Barber Colman 7 SC**

*Standard Features:*  
 Universal Input (T/C, RTD)  
 Auto-Tuning  
 Auto and manual switching  
 Proportional Output  
 Dual Display



**Yokogawa UT-150**

*Standard Features:*  
 Universal Input (T/C, RTD)  
 Auto-Tuning  
 Proportional Output  
 Dual Display

### 1/4th DIN Controllers:



**Honeywell UDC2300**

*Standard Features:*  
 Universal Input (T/C, RTD, 4-20mA)  
 Auto-Tuning  
 Auto and manual switching  
 Setpoint ramping  
 Proportional Output



**Yokogawa UT-350**

*Standard Features:*  
 Universal Input (T/C, RTD, 4-20mA)  
 Auto-Tuning  
 Auto and manual switching  
 Setpoint ramping  
 Dual Display  
 (2) Digital Inputs  
 (3) Alarm Outputs (RLY)  
 Configurable Output (DAT, Prop, RLY)

## Notes