The 6400 is one of the most powerful profilers of its size available. It features our proven RaPID fuzzy logic control algorithm, for faster, more accurate control. 4 programs can be held in memory.

- Free-form programming
- Delayed start
- Guaranteed soak
- Power fail recovery
- Event/profile active outputs
- Remote Start
- Modbus comms
- PC support software

### Technical Data

#### Features
- Control Types
  - PID with Pre-tune and RaPID fuzzy logic, or Manual Tuning. Heat or Heat/Cool, applications
- Output Configuration
  - Selectable from front panel, with bumpless transfer
- Alarm 1 & 2 Types
  - Up to 3 total. Max 2 for control (Heat & Cool), max 2 for Alarms, max 1 for retransmit PV or SP
- Human Interface
  - Process high, process low, setpoint deviation and band
- PC Configuration
  - 4 buttons, 10mm & 8mm high LED's, plus run-hold, tune, event & profile/control status LED's
- Off-line configuration & profile editing via config socket (comms option not required)

#### Profiles
- Number of Programs
  - 4, each with 16 free-form segments (Ramp/Dwell/End). Max segment length 99 hours 59 minutes
- Delayed Start
  - Max 99 hours 59mins delay from initiation to program start
- Guaranteed Soak
  - Holds program if PV is outside of specified hold band during dwell segments.
- Program Cycles
  - 1 to 9999 or infinite (continuously re-starts program at end)
- Ramp Rate Definition
  - Either ramp rate, or time to final setpoint
- Power Loss Recovery
  - Hot (continue profile from point of power fail) or Cold (end profile and return to controller mode)

#### Input
- Thermocouple
- RTD
  - 3 Wire PT100, 50Ω per lead maximum (balanced)
- DC Linear
  - 0-20/4-20mA into 500Ω max, 0-10/0-5V into 500Ω min. Scaleable -1999 to 9999, dec point available
- Impedance
  - >100MΩ for Thermocouple and mV ranges, 47KΩ for V ranges and 4.7Ω for mA ranges
- Accuracy
  - +/- 0.25% of input span +/- 1 LSD (T/C CJC better than 0.7°C)
- Sampling
  - 4 per second, 14 bit resolution approximately
- Sensor Break Detection
  - <2 secs (except zero based DC ranges), control O/P's turn off, *high alarms activate (*low for RTD)

#### Outputs & Options
- Control/Alarm/Event Relay
  - Contacts SPDT 2Amp resistive at 240V AC, >500,000 operations
- DC for SSR
  - Drive capability >4.2V DC in 1KΩ (10V 500Ω version available)
- DC Control/Retransmit
  - 0-20/4-20mA into 500Ω max, 0-10/0-5V into 500Ω min. Control OP +/- 0.5%, Retransmit +/- 0.25%
- Solid State (Triac)
  - 0.01 to 1 Amp AC 20 to 280V, 47 to 63Hz
- Remote Run-Hold
  - Volt free or TTL input (Hold = -0.6 to 0.8V or contact open, Run = 2 to 24V or contact close)
- Communications
  - 2 Wire RS485, 1200 to 9600 Baud, Modbus

#### Operating & Environmental
- Temperature & RH
  - 0 to 55°C (-20 to 80°C storage), 20% to 95%RH non-condensing
- Power Supply
  - 90 to 264V 50/60Hz (optional 20 to 55V AC/22 to 65V DC), approx 4 Watts
- Front Panel Protection
  - IEC IP66 (Behind panel protection is IP20)
- Approvals and Certification
  - CE, UL & Ulc
### Dimensions

![Dimensions Diagram](image)

- **10mm (approx)**
- **48mm**
- **110mm**

### Panel Cut-out

![Panel Cut-out Diagram](image)

- **45mm +0.5**
- **48mm**
- **45mm +0.5**

### Connection Details

**Input**
- Configurable to any type, no extra parts required

**Output 1**
- Type is fixed as ordered. Either Relay/SSR (selectable), Triac or DC Linear (selectable for mV, mA, Volts)

**Output 2**
- Configurable as Cool O/P or Alarm, Event or Profile Active via plug-in Relay, Cool O/P or Alarm via plug-in SSR module, or Cool O/P only via Triac or DC Linear modules

**Output 3**
- Configurable as Alarm, Event or Profile Active via plug-in Relay, Alarm via plug-in SSR module, or retransmit using DC Linear module

**Option Slot**
- Configurable as RS485 comms or remote run-hold, via plug-in modules

### Order Code

**Input type**
- 3 Wire RTD or DC mV
- Thermocouple
- DC mA
- DC Voltage

**Output 1**
- Relay Control
- DC for SSR Control
- DC 0-10V Control
- DC 0-20mA Control
- DC 0-5V SP Control
- DC 4-20mA Control
- Triac Control

**Output 2**
- Not fitted
- Relay Ctrl, Alarm 2, Event or Profile Active
- DC for SSR Control or Alarm 2
- DC 0-10V Control
- DC 0-20mA Control
- DC 0-5V Control
- DC 4-20mA Control
- Triac Control

**Output 3**
- Not fitted
- Relay Ctrl, Alarm 1, Event or Profile Active
- DC for SSR Alarm 1 output
- DC 0-10V Re-Transmit PV or SP
- DC 0-20mA Re-Transmit PV or SP
- DC 0-5V Re-Transmit PV or SP
- DC 4-20mA Re-Transmit PV or SP

### Special Variants

- Blank
- Special variant not required

- S14
- 10V DC SSR outputs
  (requires SSR output codes)

### Options and Power Supply

- 00
  - No Options/90-264V AC line supply
- 02
  - No Options/24-48V AC or DC line supply
- 10
  - RS485 Comms/90-264V AC line supply
- 12
  - RS485 Comms/24-48V AC or DC line supply
- 30
  - Remote Run-Hold/90-264V AC line supply
- 32
  - Remote Run-Hold/24-48V AC/DC line supply

### Field Reconfiguration

**Input**
- Configurable to any type, no extra parts required

**Output 1**
- Type is fixed as ordered. Either Relay/SSR (selectable), Triac or DC Linear (selectable for mV, mA, Volts)

**Output 2**
- Configurable as Cool O/P or Alarm, Event or Profile Active via plug-in Relay, Cool O/P or Alarm via plug-in SSR module, or Cool O/P only via Triac or DC Linear modules

**Output 3**
- Configurable as Alarm, Event or Profile Active via plug-in Relay, Alarm via plug-in SSR module, or retransmit using DC Linear module

**Option Slot**
- Configurable as RS485 comms or remote run-hold, via plug-in modules

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