6400
1/16 DIN Profiler Controller

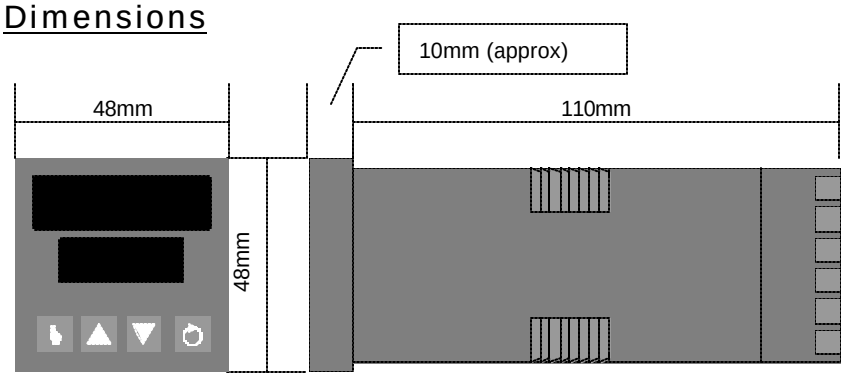
The 6400 is one of the most powerful profilers of its size available. It features our proven RaPID fuzzy logic control algorithm, for faster, more accurate control. 4 programs can be held in memory.

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

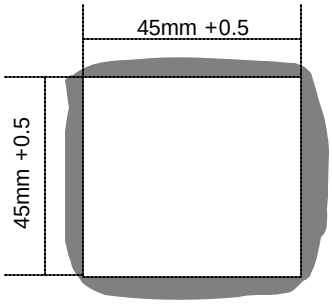
Technical Data

Features	
Control Types	PID with Pre-tune and RaPID fuzzy logic, or Manual Tuning. Heat or Heat/Cool, applications
Auto/Manual	Selectable from front panel, with bumpless transfer
Output Configuration	Up to 3 total. Max 2 for control (Heat & Cool), max 2 for Alarms, max 1 for retransmit PV or SP
Alarm 1 & 2 Types	Process high, process low, setpoint deviation and band
Human Interface	4 buttons, 10mm & 8mm high LED's, plus run-hold, tune, event & profile/control status LED's
PC Configuration	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	J, K, R, S, T, B, L, & N.
RTD	3 Wire PT100, 50Ω per lead maximum (balanced)
DC Linear	0-20/4-20mA, 0-50/10-50mV, 0-5/1-5/0-10/2-10V. 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	100 to 240V 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

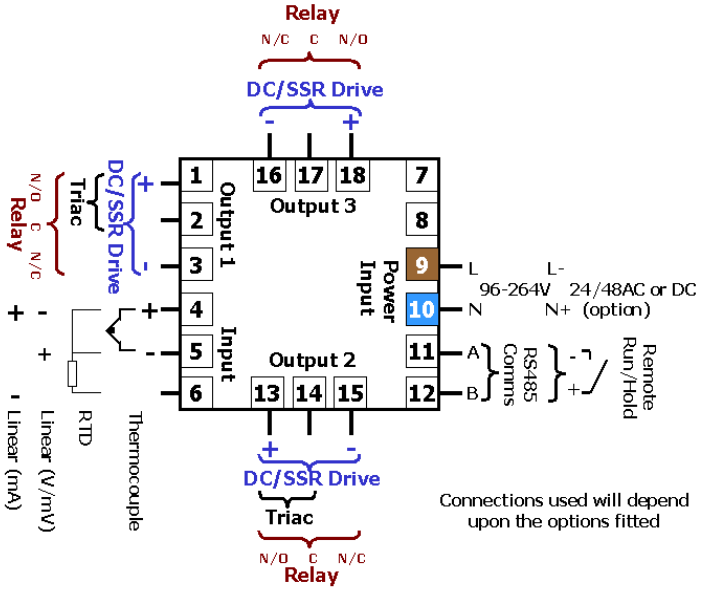
Dimensions



Panel Cut-out



Connection Details



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

Order Code

N6400 - x - x - x - x - xx - xxx

Input type

3 Wire RTD or DC mV	1
Thermocouple	2
DC mA	3
DC Voltage	4

Output 1

Relay Control	1
DC for SSR Control	2
DC 0-10V Control	3
DC 0-20mA Control	4
DC 0-5V SP Control	5
DC 4-20mA Control	7
Triac Control	8

Output 2

Not fitted	0
Relay Ctrl, Alarm 2, Event or Profile Active	1
DC for SSR Control or Alarm 2	2
DC 0-10V Control	3
DC 0-20mA Control	4
DC 0-5V Control	5
DC 4-20mA Control	7
Triac Control	8

Special Variants

Blank	Special variant not required
S14	10V DC SSR outputs (requires SSR output codes)

Options and Power Supply

00	No Options/100-240V AC line supply
02	No Options/24-48V AC or DC line supply
10	RS485 Comms/100-240V AC line supply
12	RS485 Comms/24-48V AC or DC line supply
30	Remote Run-Hold/100-240V AC line supply
32	Remote Run–Hold/24-48V AC/DC line supply

Output 3

0	Not fitted
1	Relay Ctrl, Alarm 1, Event or Pr ofile Active
2	DC for SSR Alarm 1 output
3	DC 0-10V Re-Transmit PV or SP
4	DC 0-20mA Re-Transmit PV or SP
5	DC 0-5V Re-Transmit PV or SP
7	DC 4-20mA Re-Transmit PV or SP

In accordance with our policy of continuous improvement, we reserve the right to change specifications from those shown in this document.