

6400 1/16 DIN Profiler Controller



- Free-form programming
- Delayed start
- Guaranteed soak
- Power fail recovery
- Event/Profile active outputs
- Remote start
- Modbus comms



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. Four programs can be held in memory.

Specification

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, 50 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 | >100M for Thermocouple and mV ranges, 47K for V ranges and 4.7 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 inputs) |

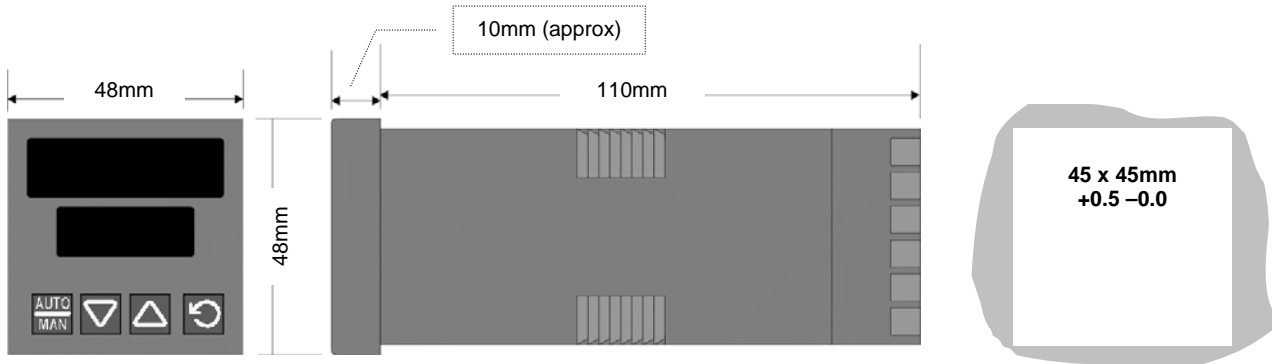
Outputs & Options

| | |
|---------------------------|---|
| Control/Alarm/Event Relay | Contacts SPDT 2Amp resistive at 240V AC, >500,000 operations |
| DC for SSR | Drive capability >4.2V DC in 1K minimum (10V 500 version available) |
| DC Control/Retransmit | 0-20/4-20mA into 500 max, 0-10/0-5V into 500 min. Accuracy, 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 protocol |

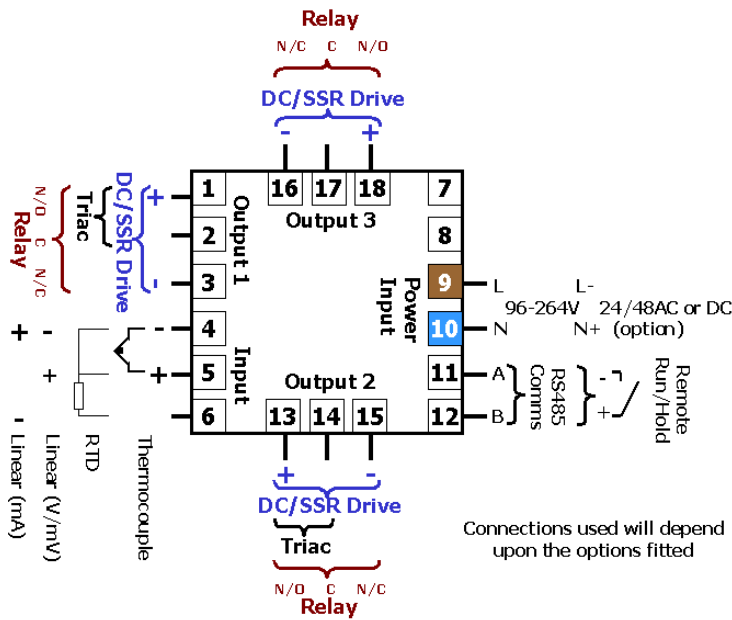
Operating and Environmental

| | |
|-----------------------------|---|
| Temperature & RH | 0 to 55°C (-20 to 80°C storage), 20% to 95%RH non-condensing |
| Power Supply | 100 to 240V 50/60Hz 7.5VA (optional 20 to 50V AC 7.5VA/22 to 65V DC 4W) |
| Front Panel Protection | IEC IP66 (Behind panel protection is IP20) |
| Approvals and Certification | CE, UL & ULc |

Dimensions



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

Ordering Code

N6400 - **X** - **X** - **X** - **X** - **XX** - **XXX**

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

| | |
|--------------------|---|
| 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 |
| | 8 |

| | |
|-------------------------------|---|
| Not fitted | 0 |
| Relay Ctrl, Alarm 2, Event or | 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 |

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

| | |
|----|--|
| 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 |

| | |
|---|--|
| 0 | Not fitted |
| 1 | Relay Ctrl, Alarm 1, Event or Profile 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 |

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