

6040/8040/4040 Temperature & Process Controllers (*cont'd.*)

Specifications

FEATURES

- Control Types Full PID with Pre-tune, Self-tune, manual tuning, or On-Off control. Heat only or heat & cool
- Auto/Manual Selectable from front panel or via digital input, with bumpless transfer
- Output Configuration Up to 3 possible, for control, alarm, 24VDC transmitter power supply or retransmit of process value or setpoint
- Alarm 1 & 2 Types Process high, process low, SP deviation, band, logical OR / AND. Also 1 loop alarm for process control security. Process alarms have adjustable hysteresis.
- Human Interface 4 button operation, dual 4 digit 10mm & 8mm high (6040, 8040) and 13mm & 10mm high (4040) LED displays, plus 5 LED indicators
- PC Configuration Off-line configuration from PC serial port to dedicated config socket (comms option not required). ChromaWare Configuration Software for Windows 98 or higher.

INPUT

- Thermocouple J, K, C, R, S, T, B, L, N & PtRh20%vsPtRh40%.
- RTD 3 Wire PT100, 50Ω per lead maximum (balanced)
- DC Linear 0 to 20mA, 4 to 20mA, 0 to 50mV, 10 to 50mV, 0 to 5V, 1 to 5V, 0 to 10V, 2 to 10V. Scaleable -1999 to 9999, with adjustable decimal point
- Impedance >10MΩ for Thermocouple and mV ranges, 47KΩ for V ranges and 5Ω for mA ranges
- Accuracy ±0.1% of input range ±1 LSD (T/C CJC better than 1°C)
- Sampling 4 per second, 14 bit resolution approximately
- Sensor Break Detection <2 seconds (except zero based DC ranges), control O/P's turn off, high alarms activate for T/C and mV ranges, low alarms activate for RTD, mA or V ranges

OUTPUTS & OPERATIONS

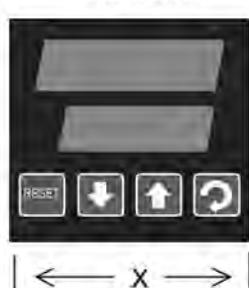
- Control & Alarm Relays Contacts SPDT 2 Amp resistive at 240V AC, >500,000 operations
- Control SSR Driver Outputs Drive capability >10V DC in 500Ω minimum
- Triac Outputs 0.01 to 1 Amp AC, 20 to 280Vrms, 47 to 63Hz
- DC Linear Outputs 0 to 20mA, 4 to 20mA into 500Ω max, 0 to 10V, 2 to 10V, 0 to 5V into 500Ω min. Control outputs have 2% over/under drive applied. Accuracy ±0.25% at 250Ω (degrades linearly to 0.5% for increasing burden to specified limits)
- Transmitter Power Supply Output 24VDC (nominal) into 910Ω minimum to power external devices
- Communications 2 Wire RS485, 1200 to 19200 Baud, Modbus protocol
- Digital Input Selects between 2 setpoints or Auto/Manual control. Volt free or TTL input
- Remote Setpoint Input 0 to 20mA, 4 to 20mA, 0 to 5V, 1 to 5V, 0 to 10V or 2 to 10V. Scaleable -1999 to 9999. Local/Remote setpoint selected from front panel

OPERATING & ENVIRONMENTAL

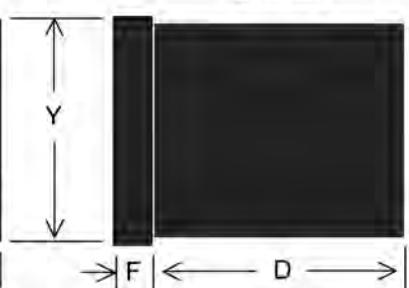
- Temperature & RH 0 to 55°C (-20 to 80°C storage), 20% to 95% RH non-condensing
- Power Supply 100 to 240V 50/60Hz 7.5VA (optional 20 to 48V AC 7.5VA/22 to 65V DC 5 watts)
- Front Panel Protection NEMA 4, IEC IP66 (Behind panel protection is IP20)
- Standards CE, CSA, UL & cUL recognized

Model	X	Y	F	D	W	H
6040	1.89" (48mm)	1.89" (48mm)	0.35" (9mm)	4.33" (110mm)	1.77" (45mm)	1.77" (45mm)
8040	1.89" (48mm)	3.78" (96mm)	0.39" (10mm)	3.94" (100mm)	1.77" (45mm)	3.62" (92mm)
4040	3.78" (96mm)	3.78" (96mm)	0.43" (11mm)	3.94" (100mm)	3.62" (92mm)	3.62" (92mm)

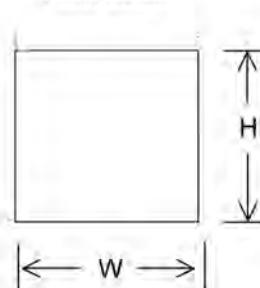
Front View



Side View



Panel Cutout



6040/8040/4040

Temperature & Process Controllers (*cont'd.*)

Model 40 Series Temperature & Process Controller

6040 1/16 DIN
8040 1/8 DIN
4040 1/4 DIN

Code Output 1

O None
R Relay (2 Amp resistive at 240 VAC)
S SSR (0/10 VDC, 500Ω Minimum load)
A Analog (0-10V, 0-20mA, 0-5V, 2-10V, 4-20mA)
T Triac (1 Amp AC)

Code Output 2

O None
R Relay (2 Amp resistive at 240 VAC)
S SSR (0/10 VDC, 500Ω Minimum load)
A Analog (0-10V, 0-20mA, 0-5V, 2-10V, 4-20mA)
T Triac (1 Amp AC)
M ⁴Dual Relay Output - 2 Amp, Form A

Code Output 3

O None
R Relay (2 Amp resistive at 240 VAC)
S SSR (0/10 VDC, 500Ω Minimum load)
A Analog (0-10V, 0-20mA, 0-5V, 2-10V, 4-20mA)
P Isolated Power Supply 24 VDC (910Ω min)
M ⁴Dual Relay Output - 2 Amp, Form A (Not available on the 6040 model)

Code Feature Option A

0 None
1 RS485 Digital Communications
2 Digital Input (Voltage Free or TTL Input)
3 ³ Remote Setpoint - Manual Set (Not available if H is selected in Feature Option B)

Code Feature Option B

0 None
1 ³Enhanced Remote Setpoint Input & Digital Input - (Not available on the 6040 model)
V ¹Valve Motor Drive Position
W ^{1,3}Valve Motor Drive Position & Remote Setpoint - (Not available on the 6040 model)
H ²Heater Break Alarm Function (Available ONLY on 6040 model)
9 Other Special Firmware

Code Power Supply

0 100 - 240V AC
1 24 - 48V AC/DC

4040- R S A 0 0 0 Typical Model Number

Order Table Notes:

¹Requires 2 On/Off Outputs from above (R, S or T)

²Requires 1 On/Off Output from above (R, S or T) & a Current Transformer

³Between Feature Options A&B, only one Remote Setpoint may be selected

⁴Only available when V or W is selected in Feature Option B.

Current Transformers for HBA Function

Current Rating	Part Number
0 - 25 Amp	0149-50071
0 - 50 Amp	0149-50072
0 - 100 Amp	0149-50073

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