OGDEN

An Extra Degree of Value℠

40 Series Temperature & Process Controllers

Features and Flexibility to Meet Your Most Demanding Process Needs

- Universal Input
- Jumperless Configuration
- Auto Detected Hardware
- Process & Loop Alarms
- Modbus Communications
- Auto or Manual Tuning
- Heat/Cool Operation
- Up to 3 Outputs
- Optional 24 Vdc Transmitter Power Supply
- Ramping Setpoint
- Adjustable Hysteresis
- Valve Motor Drive Position
- Heater Break Alarm Function
- Remote/Dual Setpoint Options
- Security Options
- Available in 1⁄16, 1⁄8 & 1⁄4 DIN Sizes
- Optional Configuration Software
- NEMA 4, IEC IP66
- UL, cUL, CE & CSA
- 3 Year Warranty

Whether you have to manage temperature, flow, valve positioning or pressure, Ogden® 40 Series temperature and process controllers provide you with a comprehensive feature list and the flexibility to meet your most demanding process needs.

Application needs change over time, but that doesn't mean that you'll need to change your controller. The modular card design of Ogden 40 Series controllers provides the owner with the flexibility to alter the functionality with ease. Expansion from one to three outputs as well as communications and remote setpoint is easily accomplished and automatically recognized by the firmware.

Optional OgdenWare* configuration software allows the owner to program multiple units efficiently and store parameter settings for later use.

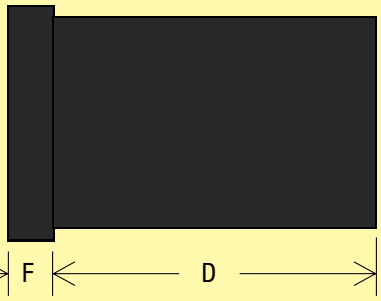
The 40 Series controllers are an ideal complement in both design and esthetics to its cousin, the Ogden® 50 Series limit controllers.

Features

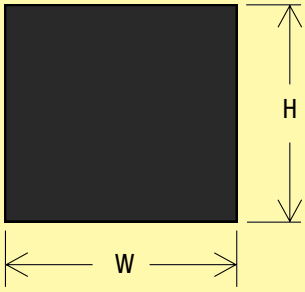
- Universal input
- Full PID with pre-tune, self-tune, manual tuning, or On-Off control, heat only, or heat and cool
- Auto-detected hardware
- Process and loop alarms
- Modbus communications
- Auto or manual tuning
- Heat/cool operation
- Ramping setpoint
- Valve motor drive position option
- Heater break alarm function option
- 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
- 24 Vdc output for loop power
- PC configuration software
- Remote setpoint input:
  - ✓ 0 to 20 mA, 4 to 20 mA, 0 to 5 V, 1 to 5 V, 0 to 10 V, or 2 to 10 V
  - ✓ Scalable, -1999 to 9999.
  - ✓ Local/remote setpoint selected from front panel
- Output configuration:
  - ✓ Up to 3 possible, for control, alarm, 24 Vdc transmitter power supply or retransmit of process value or setpoint

Front View

Side View



Panel Cutout



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

Specifications

Features

Control Types	Full PID with pre-tune, self-tune, manual tuning, or On-Off control, and heat only, or heat and cool
Auto/Manual	Selectable from front panel or via digital input, with bumpless transfer
Output Configuration	Up to 3 possible, for control, alarm, 24 Vdc 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 10 mm & 8 mm high (6040, 8040) and 13 mm & 10 mm high (4040) LED displays, plus 5 LED indicators
PC Configuration	Off-line configuration from PC serial port to dedicated configuration socket (communications option not required). OgdenWare* configuration software for Windows* 98 or higher.

Input

Thermocouple	J, K, C, R, S, T, B, L, N & Pt RH 20% vs Pt RH 40%
RTD	3-wire PT100, 50 ohm per lead maximum (balanced)
DC Linear	0 to 20 mA, 4 to 20 mA, 0 to 50 mV, 10 to 50 mV, 0 to 5 V, 1 to 5 V, 0 to 10 V, 2 to 10 V. Scaleable, -1999 to 9999, with adjustable decimal point.
Impedance	>10 megohm for thermocouple and mV ranges, 47 kilohm for V ranges, and 5 ohm 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/Ps 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 A resistive at 240 Vac, >500,000 operations
Control SSR Driver Outputs	Drive capability >10 Vdc into 500 ohm minimum
TRIAC Outputs	0.01 to 1 amp ac, 20 to 280 Vrms, 47 to 63 Hz
DC Linear Outputs	0 to 20 mA, 4 to 20 mA into 500 ohm max, 0 to 10 V, 2 to 10 V, 0 to 5 V into 500 ohm min. Control outputs have 2% over/under drive applied. Accuracy ±0.25% at 250 ohm (degrades linearly to 0.5% for increasing burden to specified limits).
Transmitter Power Supply	Output 24 Vdc (nominal) into 910 ohm minimum to power external devices
Communications	2-wire RS-485, 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 20 mA, 4 to 20 mA, 0 to 5 V, 1 to 5 V, 0 to 10 V, or 2 to 10 V. 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 240 V 50/60 Hz 7.5 VA (optional 20 to 48 Vac 7.5 VA/22 to 65 Vdc 5 W)
Front Panel Protection	NEMA 4, IEC IP66 (behind-panel protection is IP20)
Standards	CE, CSA, UL, and cUL recognized

* OgdenWare is a trademark of Chromalox, Inc. Windows is the registered trademark of Microsoft Corporation, Redmond, Washington.

Ordering Information

Model	40 Series Temperature & Process Controller
6040	1/16 DIN
8040	1/8 DIN
4040	1/4 DIN

Code	Output 1
0	None
R	Relay (2 A resistive at 240 Vac)
S	SSR (0/10 Vdc, 500 Ω Minimum Load)
A	Analog (0 to 10 V, 0 to 20 mA, 0 to 5V, 4 to 20 mA)
T	TRIAC (1 amp ac)

Code	Output 2
0	None
R	Relay (2 A resistive at 240 Vac)
S	SSR (0/10 Vdc, 500 Ω Minimum Load)
A	Analog (0 to 10 V, 0 to 20 mA, 0 to 5 V, 4 to 20 mA)
T	TRIAC (1 amp ac)

Code	Output 3
0	None
R	Relay (2 A resistive at 240 Vac)
S	SSR (0/10 VDC, 500 Ω Minimum Load)
A	Analog (0 to 10 V, 0 to 20 mA, 0 to 5 V, 4 to 20 mA)
P	Isolated Power Supply 24 Vdc (910 Ω min)

Code	Feature Option A
0	None
1	RS-485 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	[3]Enhanced Remote Setpoint Input & Digital Input - (Not available on the 6040 model)
V	[1]Valve Motor Drive Position
W	[1,3]Valve Motor Drive Position & Remote Setpoint (Not available on the 6040 model)
H	[2]Heater Break Alarm Function (Available only on 6040 model)
9	Other Special Firmware

Code	Power Supply
0G	100 to 240 Vac
1G	24 to 48 Vac/dc

4040 –	R	S	A	0	0	0G	**Typical Model Number**

[1]Requires 2 On/Off Outputs from above (R,S, or T). [2]Requires 1 On/Off Output from above (R,S, or T) and a current transformer. [3]Between Feature Options A and B only *one* Remote Setpoint may be selected.

Stocked Items

DIN Size	Part Number	PCN	DIN Size	Part Number	PCN
1/16	6040-R00000G	314552	1/16	6040-RRR000G	314595
1/16	6040-S00000G	314560	1/16	6040-RS0000G	314587
1/16	6040-RR0000G	314579	1/16	6040-RSR000G	314608
1/16	6040-SR0000G	314712	1/4	4040-R00000G	314536

Accessories

Item	Part Number
OgdenWare Configuration Software	0149-50078
Cable for Configuration Software	0149-50062
Snubber	0149-01305
Current Transformers for HBA Function 0 - 25 Amp 0 - 50 Amp 0 - 100 Amp	 0149-50071 0149-50072 0149-50073