

Programmable Controls

Model 6460 Sequence Control

Upgraded replacement for Series 56450-4xx

MODELS

56460-400 85-265 VAC
56460-450 18-27 VDC

- 500 Programming Levels
- 2-Line, 32-Character Backlit LCD Display
- 2 Count Inputs w/17 Programmable Modes
- 4 Programmable and 9 Fixed Control Inputs
- 16 NPN Transistor Outputs
- Process Control Counter
- Batch Counter
- Totalizer
- Timer Function
- Ratemeter
- Count and Rate Scaling
- RS-232 Serial Communications



The 6460 Sequence Control is a 500-level count and time control with a powerful set of features to handle almost any sequential control application. Multiple programs can be entered into the unit via the large, easy-to-use front panel or the serial port using Durant's 6460 Configuration Software (see next page). The operator only has to call up the appropriate program for the job.

Machines or processes are controlled as a result of sensors providing count pulses at rates up to 15 kHz, or by timing from the internal 1mS clock and 16 NPN transistor outputs. The highly visible 2-line display provides a wide range of process information. LEDs clearly indicate operating and output status.

The universal power supply and optional NEMA 4 mounting kit allow the 6460 to be used in almost any environment. Also available is a DC powered model. The compact size

preserves valuable pane space, including less than 4" in depth. Installation and wiring is easy using the snap-on mounting clips and removable terminal strips.

The count input terminal provides 15 VDC to power sensors. The jump and control input terminals provide 24 VDC. DIP switches are used to set input options such as NPN or PNP wiring.

The feature set of the 6460 results in unlimited application potential. These include:

- Cut-to-length
- Flow control
- Batch control
- Conversion
- Stamping
- Wire and Cable
- Roll forming
- Coil winding
- Induction heat treating
- Sequential positioning
- Simple programmable limit switch

ORDERING INFORMATION

Model Number	Product Description
56450-499	Desk Kit for Series 6450 and 6460
56460-400	Sequence Control, AC powered version
56460-450	Sequence Control, DC powered version
28249-303	NEMA 4 Mounting Kit

Programmable Controls

Specifications

ENVIRONMENTAL:

Temp.: Operating: 0° to 55°C; Storage: -20° to 70°C
Humidity: 0 to 85% RH, non-condensing
Vibration: 2.5g's, 30 to 200 Hz
Shock: 50g's, 11ms half sinewave
Front Panel: NEMA 4 rating with optional gasket and ten (10) mounting clips

MECHANICAL

Cutout: 7.32"W x 5.43"H (186mm x 138mm)
DIN Standard
Outline: 8.07"W x 6.18"H x 3.87"D (205mm x 157mm x 98mm)
Enclosure: All sheet metal construction w/polyester front panel overlay. Panel mounting with four (4) metal mounting clips standard
Connectors: Six (6) Phoenix Pluggable Terminal Blocks
One-to-one terminal block to I/O board or encoder mating
DB9 for RS232 Communications

INPUTS

Power: 85-265 VAC, 47-63 Hz, 145VA
Dielectric strength: 2200VDC
Optional 24VDC (18-27VDC) input configuration

Count Inputs: Three (3) inputs (A, B, & CR) for one (1) six (6) digit counter with 17 count modes
Impedance: 2.74k Ohms to +5VDC or 5.48k Ohms to Ground (A & B only).
Voltage: high 3.5 to 30VDC, low 0 to 1.5VDC
15kHz maximum count speed for input voltages <5V (Max. count speed decreases to 5kHz at 30VDC)
Sink/Source and Polarity DIP switch select for A and B only
150Hz or 15kHz input response DIP switch select for A, B, and CR
Seven (7) position DIP switch on rear panel for selections

Control Inputs: Four (4) Programmable Enable Jumps and eight (8) Fixed
Function: P1, P2, P3, P4, FJ, RJ, MR, JOG, MAN, ST, SP, and PRG
Impedance: 2.74k Ohms to +5VDC
Voltage: high 3.5 to 30VDC, low 0 to 1.0VDC; 25ms maximum response time

OUTPUTS

Power: 24VDC \pm 10%, 800mA max., w/continuous short circuit protection
15VDC \pm 5%, 200mA max., w/current limit and thermal protection

Control Outputs: Sixteen (16) Open-collector w/current limit and thermal protection
On State Current: 150mA max. @0.4V max.
Off State Voltage: 30VDC max. @0.2mA max.

80 \pm 50us latency
Outputs one (1) and two (2) can be programmed to be timed outputs
Timed output duration: 0.001 to 999.999 sec. (from end of level)
Output 16 can be programmed to be an alarm output

COMMUNICATIONS

RS232 Port: Non-isolated, DCE polarity, RD, TD, CTS, and COM signals only; DB9 connector, male housing w/sockets
Uses standard cable to PC but special cable to Communications Converter 300 to 19200 Baud rates; even, odd and no parity
Ambassador/Opto22 compatible protocol

HUMAN INTERFACE

Display: Two (2) line x 16 character LCD module w/LED backlight; 8mm (.315") high dot matrix characters w/underline cursor & no decimal point
16 yellow LED output indicators and four(4) bi-color LEDs for Status, Run, Auto, and Program

Keys: 24 membrane w/metal dome tactile feel

INTERNAL RESOURCES

User Program Memory: 8K x 8 NOVRAM will hold 500 levels and 100 variables (w/eight (8) character labels). Return storage is five (5) levels; minimum coincidence setpoints are 1ms worth of counts (or 2ms for timer levels) plus .25ms for each level from previous coincidence to next coincidence

Counter: 0-999999 w/.0001 to 9.9999 scaling and programmable decimal point; count and scaling 100% accurate

Totalizer: 0-99999999 w/same scale factor and decimal point as counter; count and scaling 100% accurate

Ratemeter: 0-49999 w/.001 to 9999 scaling and programmable decimal point; maximum error: \pm 0.05% or one (1) rightmost display digit whichever is greater

Timer: 0-999.999 sec.; maximum error: \pm 0.05% plus \pm 1ms

Batcher: 0-999999 w/operator programmable setpoint and jump destination. To be used instead of Recipe Jump -- works like Repeat Jump w/Auto-recycle (Level 001 should be programmed to Return to Batch for proper Master Reset)

Watchdog: Software watchdog timer that requires power cycle to reset

Auto Restart: Programmable restart function (disable, enable, or enable w/master reset)

Programmable Controls

6460 Configuration Software

MODEL 57624-460

- Create a program on your PC
- Upload/download an existing program
- Creates printouts



Model 57624-460

Durant's 6460 Configuration Software allows easy programming of the 6460 Sequence Control. Create programs for single or multiple units on your PC and download to each unit. Programs can be printed or stored on disk for troubleshooting purposes.

Upload and download capability provides error-free program duplication. Program editing is accomplished using familiar Windows user interface components, text boxes,

drop-down lists, and control buttons. All menu options and default settings are displayed. The 6460 Configuration Software is supplied on three 3.5" disks.

Hardware requirements:

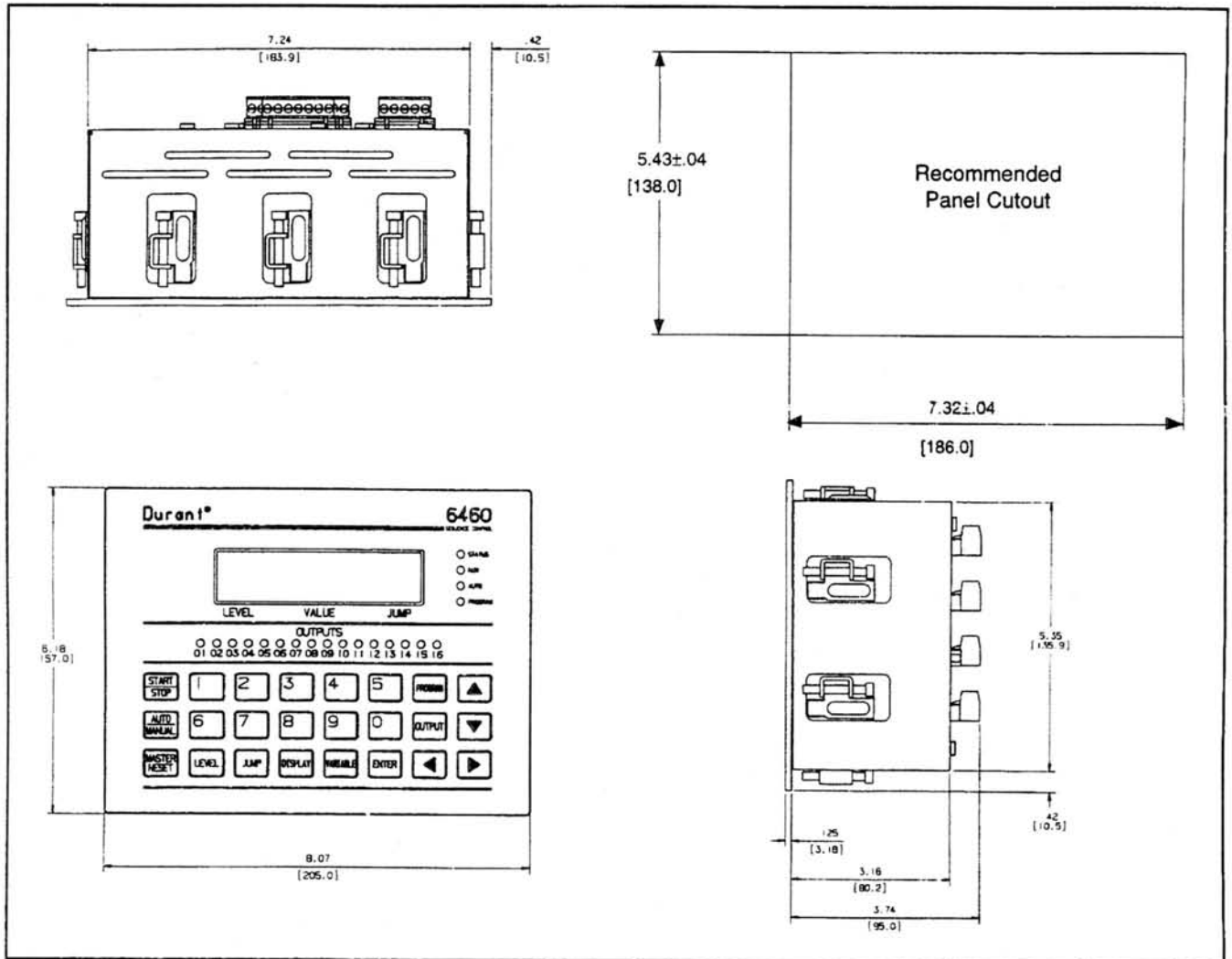
- IBM compatible PC with minimum 486 microprocessor.
- Windows 95 or NT.
- 5MB of available hard drive space.

ORDERING INFORMATION

Model Number	Product Description
57624-460	6460 Configuration Software

Programmable Controls

6460 Dimensions / Accessories/Replacement Parts



Programmable Controls Accessories

Model 56460-400

- 56450-499 Desk Kit for 6460
- 28249-303 Nema 4 Mounting Kit
- 57624-460 Configuration Software

Model 54420-400

- 37350-001 BMC Terminal Program Disk
- 38144-202 RS-232 Modem Cable (9F to 9M)
- 38144-203 RS-232 Modem Cable (25F to 9M)
- 38146-XX0 Shielded Twisted Pair Communication Cable (XX is length in tens of feet)
- 58801-460 RS-485 to RS-232 Communications Converter, 115 VAC US line cord
- 58801-461 RS-485 to RS-232 Communications Converter, 115/230 VAC



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Acorn Industrial Products Co • 520 Hertzog Boulevard • King of Prussia, PA 19406

Phone: 800-523-5474 • Fax: 800-782-6780

Email: acorn@acornindprod.com • Website: www.acornindprod.com