

PC40, PC44 AND PC44R PATTERN CONTROLS

**Flexibility and cost efficiency in a
versatile series of programmable controls.**



Pattern Controls from Nordson combine the latest technology with comprehensive capabilities.



Nordson pattern controls assure accurate hot melt adhesive deposition for unvarying quality in your product. No matter what the size or pattern requirements, and regardless of how simple or sophisticated the production line, our comprehensive pattern control series can meet most of your needs. In addition, Nordson backs each model with more than 20 years of experience in automated adhesive application.

All this experience combined with the latest Application Specific Integrated Circuit (ASIC) technology - gives you a family of pattern controls with the reliability, speed and value you have come to expect from Nordson.

The pattern control series consists of three models to provide the right level of performance for your operation.

PC40 Pattern Control

The PC40 provides time-based programming for constant line speeds. An extensive programming range (2 to 9999 milliseconds per pattern) easily accommodates different product sizes and pattern requirements.

PC44 Pattern Control

The PC44 provides distance-based programming for variable line speeds. Accurate line-speed tracking via a pulse encoder assures consistent bead length as the line speed changes. The PC44 model also offers a wide programming range (2 to 9999 encoder pulses per pattern) for flexibility in handling various product sizes and patterns.

PC44R Pattern Control

The PC44R adds run-up capability to distance-based programming for bead deposition control when using piston-pump applicators. With an in-line air-pressure transducer, the run-up system regulates adhesive output in direct proportion to line speed for consistent bead volume and length.



Flexibility and reliability with easy operation.

Nordson pattern controls incorporate Application Specific Integrated Circuit (ASIC) technology to help keep your line productive and profitable. With its cost-efficient, single integrated circuit design, advanced ASIC technology enhances reliability and helps reduce the effects of electromagnetic interference.

The pattern control series helps make production line management easy on the operator. The compact, self-contained units are simple to install almost anywhere – on a wall, post, DIN rail or inside a cabinet. With multiple memories, product changeovers are quick and uncomplicated. And while you have access to 128 gun on/off settings, adjusting a pattern in-process is as simple as pressing two buttons.

The convenience of a total package.

Nordson provides the essential components you need for smooth installation and dependable performance. All components are designed and tested for use with Nordson pattern controls.



Sensors - a selection of opposed, retroreflective and diffuse sensing models meets the needs of individual plant environments. Compact and self-contained designs include mounting brackets, and the sensor and amplifier in a single housing. A built-in LED alignment indicator helps make startup quicker.



PS40 Regulated Power Supply - separate power supply adds installation and control convenience. Reliable operation provided with an 1P54-rated enclosure, output tolerance of ± 5 percent, line and load regulation of 0.5 percent and stability of 0.1 percent.

Dual Output Encoders (PC44 and PC44R) - rugged design supplies an output signal to one or two devices for added installation ease. Quadrature phasing maintains pattern integrity, even if the line moves in reverse. Waterwash encoder with NEMA 4 rating available.

Encoder Cable - available in either dual output splitter or single output cable design to meet your operating requirements (30-ft/9.1-m length).

Run-up Transducer (PC44R) - regulates air pressure to the piston pump in proportion to line speed. In turn, the pump reacts by adjusting adhesive pressure and corresponding output. Transducers include a NEMA 4 enclosure, mounting plates, fasteners and 30 feet (9.1 m) of cable.

Put Nordson Pattern Control performance to work.

At Nordson, we take pride in delivering the highest level of customer support in the industry. Our factory-trained sales representatives and service engineers stand ready to tailor a system to your requirements. We'll continue to assist you during startup, training your employees to operate and maintain the equipment. And once you're up and running, you can get needed parts and service without delay.

For more information on our full range of pattern controls - contact your Nordson representative. We'll show you how easy and cost-effective it can be to get the precision performance you want.



Specifications

Time Base (PC40):

Crystal oscillator
±0.01% (includes tolerance,
temperature drift and aging)

Time Range (PC40):

2-9999 ms

Distance Range

(PC44, PC44R):

2-9999 mm (when one encoder
pulse equals one mm of line travel)

Setpoint Resolution:

PC40: 1 ms

PC44, PC44R: 1 pulse count (Note:
PC44 and PC44R without
encoders operate as time-based
units; PC40 specifications apply.)

Gun Timing Accuracy:

First Delay

PC40: plus 0, minus 1 ms

PC44, PC44R: plus 0, minus

1 pulse count

DC Beyond First Delay

PC40: accurate to crystal
frequency

PC44, PC44R: ±1 pulse count

AC Beyond First Delay

PC40: transition time, minus 0,
plus 10 ms

Run-Up Control (PC44R):

Increases or decreases air pres-
sure supplied to piston pump from
10 to 60 psi in 200 ms. Hydraulic
pressure response is system
dependent.

Enclosure:

Meets 1P54 rating

Approvals:

Controls and PS40 Power Supply
UL, CSA, TUV

Power Requirements/ Outputs

AC Control Module (PC40):

100-120 VAC 50/60 Hz

220-240 VAC 50/60 Hz

AC models powered by AC and
drive AC solenoids.

DC Control Module

(PC40, PC44, PC44R):

24 VDC

DC models powered by 24 VDC
and drive DC solenoids.

Solid-State Outputs

For Solenoids:

1 amp maximum per channel

12 VDC To Sensors

And Encoder:

0.5 amp combined maximum

PS40 Power Supply:

Input: 100-240 VAC 50/60 Hz

Output: 24 VDC,

60 W (2.5 A) maximum

Current limited for protection

Environmental

Operating Temperatures:

Control Module

32° to 150°F (0° to 65°C)

Power Supply

Full rating to 120°F (50°C);
subtract 2%/degree C to 70°C

Operating Humidity

5% to 95% non-condensing

Storage Temperature

4° to 185°F (-20° to 85°C)

PC44R Run-up Control Transducer

Air Pressure Control Range:

3 to 145 psi (0.2 to 10 bar)

Factory set 10 to 60 psi
(0.7 to 4.1 bar)

Typical Air Flow Rate at

Mid-Range:

24 SCFM (680 L/min) @

150 psi (10.3 bar) supply

Port Sizes:

Pneumatic: 1/4 NPT

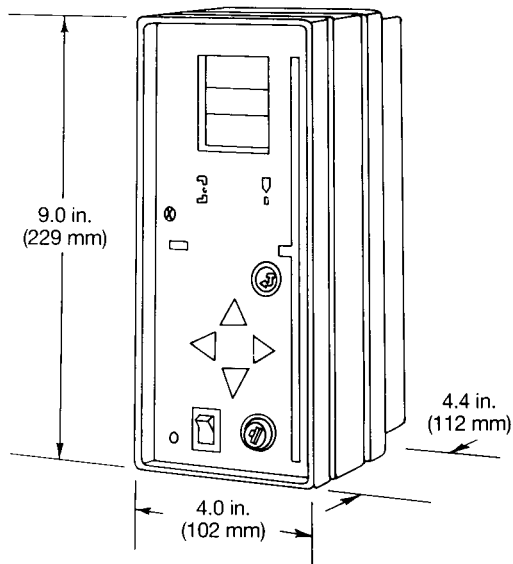
(inflow and outflow)

Electrical: 1/2 NPT

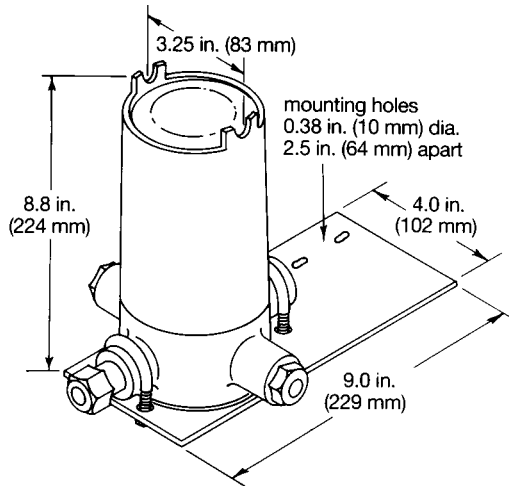
Enclosure:

Meets NEMA 4 rating (when fitted
with electrical conduit) for water-
wash applications.

Pattern Control



Transducer



Performance precision you can count on.

Nordson pattern controls combine performance advantages with extensive programming flexibility for adhesive deposition consistency, and reduced downtime and rejects. The PC4O, PC44 and PC44R Pattern Controls all provide the following capabilities.

Programming flexibility.

- Four independent output channels handle multiple-gun installations.
- Four memories, all capable of storing a pattern for each output channel, provide fast changeovers.
- Four "gun-off" and "gun-on" settings per channel handle a variety of patterns.
- A choice between two trigger input signals per channel offers increased flexibility; Inputs can operate with leading or trailing edge signals.
- Dynamic programming changes pattern transition points, stitch parameters and compensation (PC44, PC44R) while the line is operating.
- Manual or automatic remote selection of active memories accommodates automated and centralized line control systems.
- Pattern stitching on each channel adds greater pattern flexibility while conserving adhesive.
- Reference of all gun activation from trigger signal, as opposed to prior gun on/off activity, adds to consistency – especially in patterns with numerous intervals.

Reduced downtime.

- Self-diagnostics with LED error indicator help spot problems fast.
- A test mode allows systematic troubleshooting.

- Easy-to-read LCD provides instant access to program values.
- Operator interface lockout guards against tampering.
- Inputs and outputs resistant to electromagnetic interference, and IP54 rated enclosures ensure performance in harsh industrial environments.

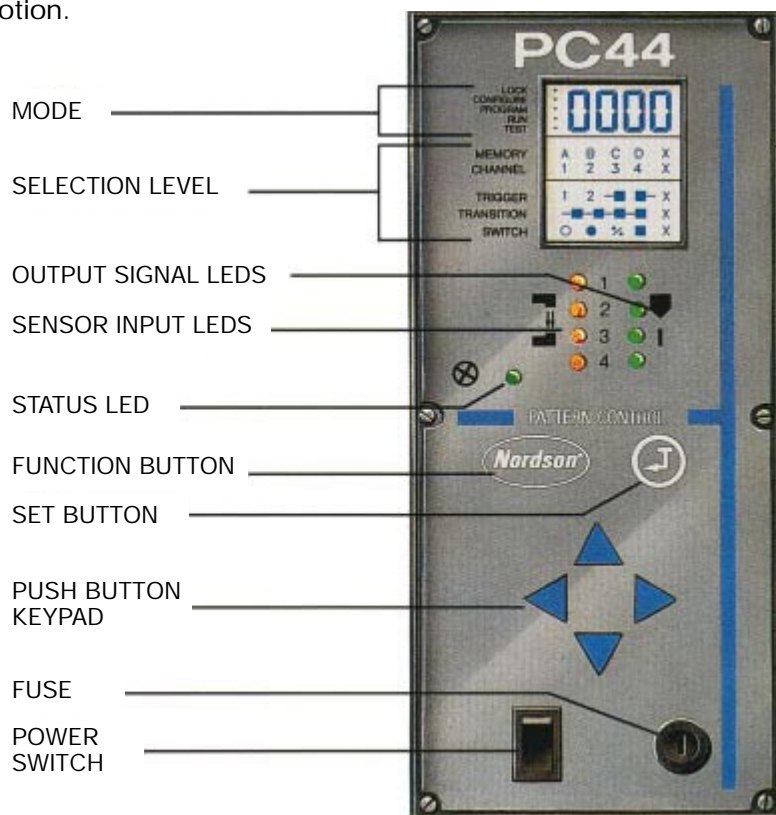
PC44 and PC44R capabilities.

- Programming resolution of one pulse count assures increased accuracy.
- Programmable "gun off" and "gun on" response compensation overcomes gun lag inaccuracies that might reduce pattern precision.
- Encoder-based line-speed tracking provides consistent patterns at changing speeds even allowing for backward motion.

- Adjustable, minimum line-speed gun disabling, with a minimum-speed default value of three feet (one meter) per minute, prevents unwanted gun operation when the line slows down.

PC44R capabilities.

- Fast, simple "two-point" run-up programming allows adhesive output to be set for a minimum and maximum line-speed point. The PC44R linearly proportions flow for all speeds in between.
- Selectable trigger memory lets the system "remember" or "ignore" trigger input signals when line speed drops below the minimum setpoint.



For more information, talk with your Nordson representative or contact your Nordson regional office.

United States

Duluth, Georgia

Telephone: (800) 683-2314

Facsimile: (770) 497-3733

Canada

Markham, Ontario

Telephone: (905) 475-6730

Facsimile: (905) 475-8821

Europe

Lüneburg, Germany

Telephone: (49) 4131-894-0

Facsimile: (49) 4131-894-149

Japan

Tokyo, Japan

Telephone: 81) 3-5762-2700

Facsimile: (81) 3-5762-2701

Asia/Australia/Latin America

Duluth, Georgia

Telephone: (770) 497-3400

Facsimile: (770) 497-3588



Nordson Corporation • 11475 Lakefield Drive • Duluth, Georgia 30097-1511
Internet: www.nordson.com