Gun Controller and Accessories

Manual P/N 768 603 B
– English –

NORDSON (UK) LTD. • STOCKPORT •

CE

Order number
P/N = Order number for Nordson products

Declaration of Conformity 73/23/EEC

We,

Nordson (U.K.) Limited

of

Ashurst Drive, Cheadle Heath, Stockport, Cheshire, SK3 0RY, United Kingdom

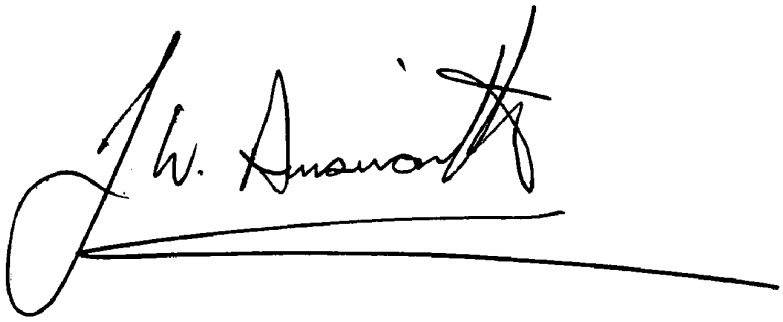
declare that under our sole responsibility for supply/manufacture of the product(s)

Product Name	Gun Controller
Model Number(s)	765105
Product Options	N/A

to which this declaration relates, is in conformity with the following standards and other normative documents

Safety	BS EN 60204–1:1993 "Safety of Machinery – Electrical equipment of machines" EN 60335:Part 1:1988 "Safety of household and similar electrical appliances" BS EN 292:1991 "Safety of machinery – Basic concepts, general principles for design"

following the provisions of 73/23/EEC Directives



Jim Ainsworth
General Manager

Nordson (U.K.) Ltd., 30 November 1995

NB ref EN45014 (BS7514)

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Specifications

Congratulations on the Purchase of Your Nordson Product

Nordson equipment is engineered and manufactured in accordance with strict specifications, using high quality components and state–of–the–art technologies that assure reliable, long–term performance. Your product was thoroughly tested for proper operation prior to shipment.

Before unpacking and installing your new equipment, please read this manual. It is your guide to safe installation, productive operation and effective maintenance. We recommend that you keep the manual available for future reference.

Your Safety is Important to Nordson

Carefully read the *Safety* section. Your product is designed for safe operation when used according to the published instructions. Potential hazards exist when operating instructions are not followed.

Manufacturer of Equipment

Nordson (U.K.) Ltd.
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Cheadle Heath
Stockport
England
SK3 0RY

Telephone: 0044 (0) 161–495–4200
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For a list of local Nordson organisations, see *Nordson International*.

Nordson International

Europe

Country		Phone	Fax
Austria		43-1-707 5521	43-1-707 5517
Belgium		31-13-511 8700	31-13-511 3995
Czech Republic		4205-4159 2411	4205-4124 4971
Denmark	*Hot Melt*	45-43-66 0123	45-43-64 1101
	Finishing	45-43-66 1133	45-43-66 1123
Finland		358-9-530 8080	358-9-530 80850
France		33-1-6412 1400	33-1-6412 1401
Germany	*Erkrath*	49-211-92050	49-211-254 658
	Lüneburg	49-4131-8940	49-4131-894 149
	Düsseldorf - Nordson UV	49-211-3613 169	49-211-3613 527
Italy		39-02-904 691	39-02-9078 2485
Netherlands		31-13-511 8700	31-13-511 3995
Norway	*Hot Melt*	47-23 03 6160	47-22 68 3636
	Finishing	47-22-65 6100	47-22-65 8858
Poland		48-22-836 4495	48-22-836 7042
Portugal		351-22-961 9400	351-22-961 9409
Russia		7-812-11 86 263	7-812-11 86 263
Slovak Republic		4205-4159 2411	4205-4124 4971
Spain		34-96-313 2090	34-96-313 2244
Sweden	*Hot Melt*	46-40-680 1700	46-40-932 882
	Finishing	46 (0) 303 66950	46 (0) 303 66959
Switzerland		41-61-411 3838	41-61-411 3818
United Kingdom	*Hot Melt*	44-1844-26 4500	44-1844-21 5358
	Finishing	44-161-495 4200	44-161-428 6716
	Nordson UV	44-1753-558 000	44-1753-558 100

Distributors in Eastern & Southern Europe

DED, Germany	49-211-92050	49-211-254 658

Outside Europe / Hors d'Europe / Fuera de Europa

- For your nearest Nordson office outside Europe, contact the Nordson offices below for detailed information.
- Pour toutes informations sur représentations de Nordson dans votre pays, veuillez contacter l'un de bureaux ci-dessous.
- Para obtener la dirección de la oficina correspondiente, por favor diríjase a unas de las oficinas principales que siguen abajo.

Contact Nordson		Phone	Fax
Africa / Middle East			
DED, Germany		49-211-92050	49-211-254 658
Asia / Australia / Latin America			
Pacific South Division, USA		1-440-988-9411	1-440-985-3710
Japan			
Japan		81-3-5762 2700	81-3-5762 2701
North America			
Canada		1-905-475 6730	1-905-475 8821
USA	*Hot Melt*	1-770-497 3400	1-770-497 3500
	Finishing	1-440-988 9411	1-440-985 1417
	Nordson UV	1-440-985 4592	1-440-985 4593

Section 1

Safety

Section 1
Safety

1. Introduction

Read and follow these safety instructions. Task and equipment specific warnings, cautions, and instructions are included in equipment documentation where appropriate.

Make sure all equipment documentation, including these instructions, is accessible to all persons operating or servicing equipment.

2. Qualified Personnel

Equipment owners are responsible for making sure that Nordson equipment is installed, operated, and serviced by qualified personnel. Qualified personnel are those employees or contractors who are trained to safely perform their assigned tasks. They are familiar with all relevant safety rules and regulations and are physically capable of performing their assigned tasks.

3. Intended Use

Use of Nordson equipment in ways other than those described in the documentation supplied with the equipment may result in injury to persons or damage to property.

Some examples of unintended use of equipment include

- using incompatible materials
- making unauthorized modifications
- removing or bypassing safety guards or interlocks
- using incompatible or damaged parts
- using unapproved auxiliary equipment
- operating equipment in excess of maximum ratings

4. Regulations and Approvals

Make sure all equipment is rated and approved for the environment in which it is used. Any approvals obtained for Nordson equipment will be voided if instructions for installation, operation, and service are not followed.

5. Personal Safety

To prevent injury follow these instructions.

- Do not operate or service equipment unless you are qualified.
- Do not operate equipment unless safety guards, doors, or covers are intact and automatic interlocks are operating properly. Do not bypass or disarm any safety devices.
- Keep clear of moving equipment. Before adjusting or servicing any moving equipment, shut off the power supply and wait until the equipment comes to a complete stop. Lock out power and secure the equipment to prevent unexpected movement.
- Relieve (bleed off) hydraulic and pneumatic pressure before adjusting or servicing pressurized systems or components. Disconnect, lock out, and tag switches before servicing electrical equipment.
- While operating manual electrostatic spray guns, make sure you are grounded. Wear electrically conductive gloves or a grounding strap connected to the gun handle or other true earth ground. Do not wear or carry metallic objects such as jewelry or tools.
- If you receive even a slight electrical shock, shut down all electrical or electrostatic equipment immediately. Do not restart the equipment until the problem has been identified and corrected.
- Obtain and read Material Safety Data Sheets (MSDS) for all materials used. Follow the manufacturer's instructions for safe handling and use of materials, and use recommended personal protection devices.
- To prevent injury, be aware of less-obvious dangers in the workplace that often cannot be completely eliminated, such as hot surfaces, sharp edges, energized electrical circuits, and moving parts that cannot be enclosed or otherwise guarded for practical reasons.

6. Fire Safety

To avoid a fire or explosion, follow these instructions.

- Ground all conductive equipment in the spray area. Check equipment and workpiece grounding devices regularly. Resistance to ground must not exceed one mega–ohm.
- Shut down all equipment immediately if you notice static sparking or arcing. Do not restart the equipment until the cause has been identified and corrected.
- Do not smoke, weld, grind, or use open flames where flammable materials are being used or stored.
- Provide adequate ventilation to prevent dangerous concentrations of volatile materials or vapors. Refer to local codes or your material MSDS for guidance.
- Do not disconnect live electrical circuits while working with flammable materials. Shut off power at a disconnect switch first to prevent sparking.
- Know where emergency stop buttons, shutoff valves, and fire extinguishers are located. If a fire starts in a spray booth, immediately shut off the spray system and exhaust fans.
- Shut off electrostatic power and ground the charging system before adjusting, cleaning, or repairing electrostatic equipment.
- Clean, maintain, test, and repair equipment according to the instructions in your equipment documentation.
- Use only replacement parts that are designed for use with original equipment. Contact your Nordson representative for parts information and advice.

7. Action in the Event of a Malfunction

If a system or any equipment in a system malfunctions, shut off the system immediately and perform the following steps:

- Disconnect and lock out electrical power. Close pneumatic shutoff valves and relieve pressures.
- Identify the reason for the malfunction and correct it before restarting the equipment.

8. Disposal

Dispose of equipment and materials used in operation and servicing according to local codes.

Section 2

Description

Section 2
Description

1. Intended Use

The Nordson Gun Controller is designed for use in the management of the triggering of spray guns. Other uses are possible and Nordson should be consulted to advise on correct application.

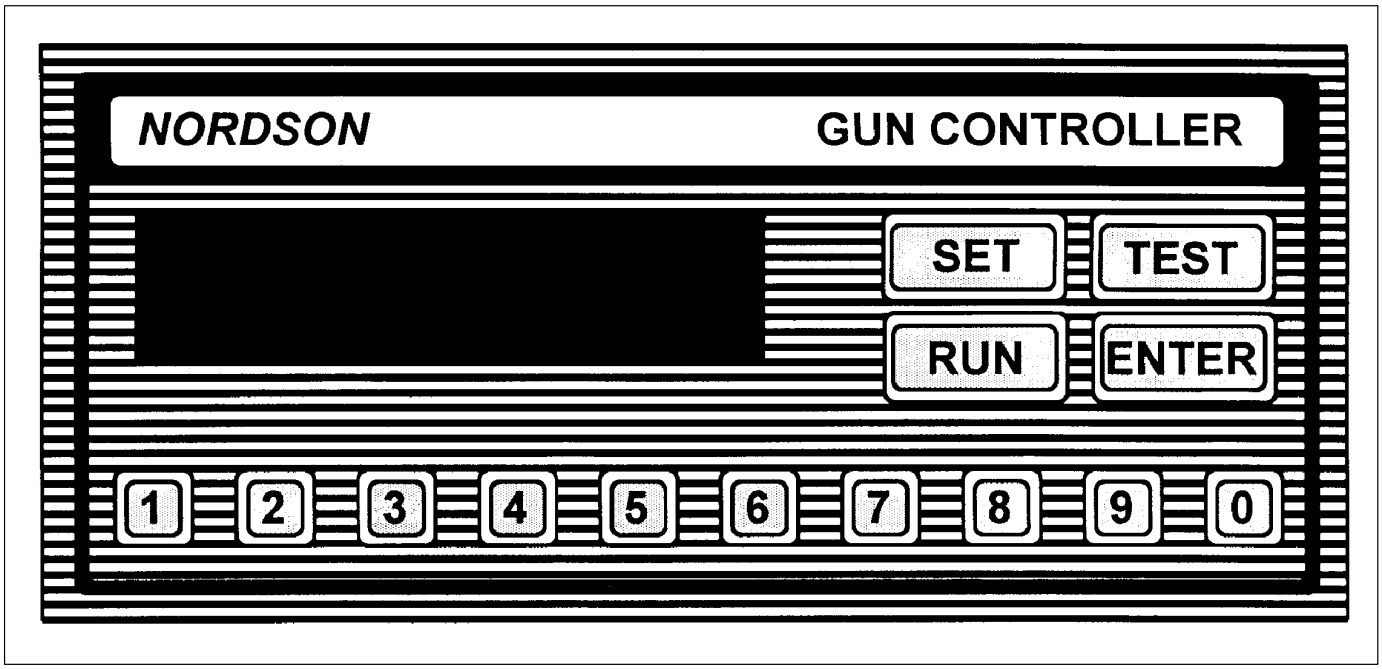


Fig. 2-1

2. Features

This micro processor system incorporates four shift registers. Each register provides delays of up to 2047 counts. The unit has a nominal 12VDC supply built in to allow the powering of some external detectors.

Operation may be synchronised to a conveyor by use of an external detector providing pulses at a rate proportional to speed; in simple applications using a fixed speed conveyor, an internal clock can be selected.

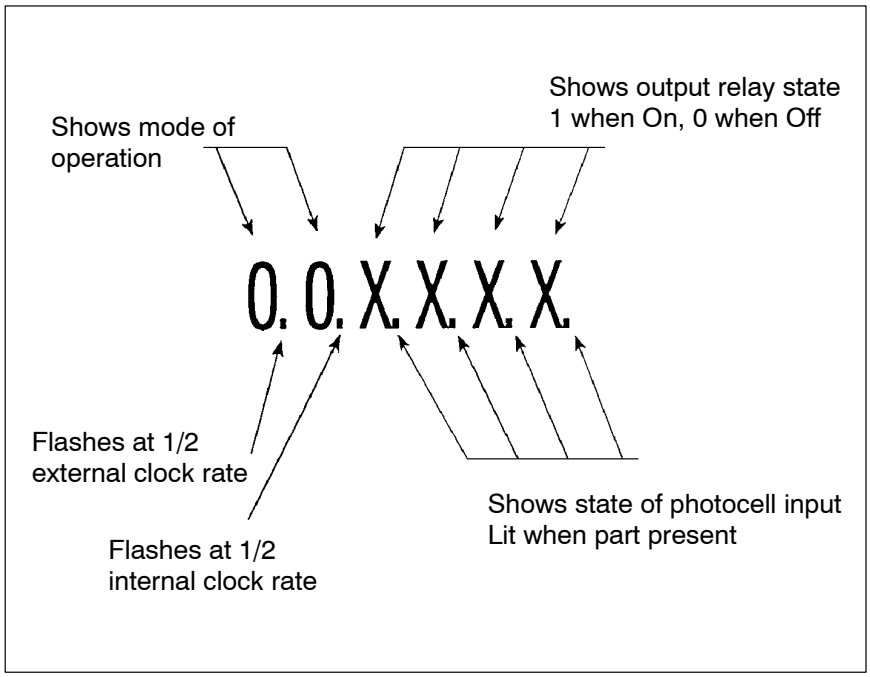
When using an external clock, the unit is interlocked to the conveyor such that if the pulses stop the outputs will be switched off until the conveyor restarts.

2. Features *(contd.)*

Programming is by a keypad on the front panel with the display showing which parameter is being set. A user pass code is available enabling limited access to programming the unit. The unit has a battery backed up memory that allows the unit to retain information with the power switched off. Programs can be changed as often as required.

The unit incorporates a test facility allowing individual outputs to be turned on and off.

The display shows several monitoring functions as shown in the diagram below:



Where an external clock is connected to the unit, the input can be monitored by observing the decimal point of left-hand display digit this will flash at one half of the input pulse rate.

When an internal clock is used then this may be monitored by observing the 5th digit (second from left) decimal point that flashes at one half of the selected clock rate.

Section 3

Installation

Section 3
Installation

WARNING: Allow only qualified personnel to perform the following tasks. Observe and follow the safety instructions in this document and all other related documentation.

1. Transport

Transport the unit so as to avoid damage. Do not throw the unit. Use suitable packaging materials and sturdy cartons. See *Specifications* section for dimensions and weight.

Protect the unit from exposure to humidity, dust and vibrations.

2. Unpacking

Carefully unpack the unit to avoid damaging it. Check for damage caused during transport.

Save packing materials for possible later use. Otherwise recycle or dispose of properly according to local regulations.

3. Removing

Switch off the mains supply, then disconnect all electrical connections from the unit.

4. Storage

Pack the unit in suitable packing materials and sturdy cartons. Protect from humidity, dust and large temperature fluctuations (condensation).

5. Disposal

Dispose of properly according to local regulations.

6. Setting up the Unit

WARNING: Allow only qualified personnel to perform the installation. Observe safety instructions.

When installing the system, the correct type of detector must be used. The controller is designed to power 12VDC sensors, sensors of other voltages may be used with the controller but they will require an external power supply, consult Nordson for further information. Proximity or photocell detectors are the most common types used.

When using photocells the use of polarised emitters is recommended where the parts are reflective, this will avoid any spurious part detections. In applications where bright finished parts are being detected the use of proximity or through beam units is advised.

When selecting a clock remember that 2047 pulses can be held in the shift register, if the distance to the last station is 10 mtrs from the detector then the maximum number of pulses from the external clock is approx. 200 per metre. Similarly if the clock is internal and the conveyor runs at 2 mtrs per minute then the maximum number of counts per second is approx. six.

7. Electrical

WARNING: Allow only qualified personnel to perform electrical connections. Observe the safety instructions.

Connect a fused electrical supply to the controller as shown in the schematic contained in the *Specifications* section.

Connect the sensors, reset switch and outputs as shown on the schematic diagram.

A maximum wire size of 0.5 mm is recommended to fit into the connector blocks.

Ensure when locating the unit to avoid high voltage switching supplies that may cause interference with the operation of the unit.

8. Configuration

1. Turn off the power to the unit.
2. Press the SET and TEST keys together and turn on the power.
3. The unit will display PAS000 with the right-hand digit flashing.
4. Type the 3 digit passcode and press ENTER, (this number is available from NORDSON on application), entry of incorrect passcode reverts to normal operation.
5. The unit displays CELLS4 with the 4 flashing. Type the number of sensors connected to the unit and press ENTER.
6. The outputs are activated from the sensors as follows:

CELLS1	All outputs activated from input 1
CELLS2	Outputs 1 and 2 activated by input 1 Outputs 3 and 4 activated by input 2
CELLS3	Output 1 activated by input 1 Output 2 activated by input 2 Output 3 activated by input 3 Output 4 not activated
CELLS 4	Output 1 activated by input 1 Output 2 activated by input 2 Output 3 activated by input 3 Output 4 activated by input 4

7. The unit displays PEAC H with the H flashing, by use of the SET and RUN keys the polarity of the cell input can be changed, from active high to active low. Press ENTER to confirm selection. This can be checked using the display later.
8. The unit displays SOP 00, to set the timeout for conveyor stopped, key in the number of half seconds for which pulses are to be missing before the outputs are automatically switched off and press ENTER.

   NOTE: Minimum value is 2.

9. The unit displays CLOC00, to set the external clock leave the display showing CLOC00 and press ENTER. To select internal clock select the clock rate in pulses per second, within the range of 1 to 50 and press ENTER.
10. The unit displays 110000. The unit is now asking for the on and off counts for each output, see programming section.

Section 4

Operation

Section 4
Operation

WARNING: Allow only qualified personnel to perform the following tasks. Observe and follow the safety instructions in this document and all other related documentation.

1. Test Mode

By pressing the test key on the front panel the outputs of the unit can be manually turned on.

When in test mode the display shows this by displaying 11 in the left-hand digit positions 110000.

Pressing the 0 key turns all the outputs on, the display would show 111111 pressing the key again turns all the outputs off.

Pressing any of the numeric keys 1 to 4 will turn the corresponding output on, for example pressing key 2 the display would show 110010 pressing the key again will turn the Output off.

Press the RUN key to return to normal Operating mode.

2. Programming

Press the SET key. The unit displays PAS000 with the right-hand digit flashing. Type the operator's passcode and press ENTER. Entry of incorrect passcode will select normal running.

The unit displays 110000. Type in the value for **OUTPUT 1 DELAY TO ON COUNTS** and press ENTER.

The unit displays 100000. Type in the value for **OUTPUT 1 EXTEND COUNTS**. The display can be changed to read 1_0000 by using the SET key this now signifies part shortening the RUN key will revert to part extend operation, and press ENTER.

The unit displays 210000. Type in the value for **OUTPUT 2 DELAY TO ON COUNTS** and press ENTER.

The unit displays 200000. Type in the value for **OUTPUT 2 EXTEND COUNTS**. The display can be changed to read 2_0000 by using the SET key this now signifies part shortening the RUN key will revert to part extend operation, and press ENTER.

2. Programming (contd.)

The unit displays 310000. Type in the value for **OUTPUT 3 DELAY TO ON COUNTS** and press ENTER.

The unit displays 300000. Type in the value for **OUTPUT 3 EXTEND COUNTS**. The display can be changed to read 3_0000 by using the SET key this now signifies part shortening the RUN key will revert to part extend operation, and press ENTER.

The unit displays 410000. Type in the value for **OUTPUT 4 DELAY TO ON COUNTS** and press ENTER.

The unit displays 400000. Type in the value for **OUTPUT 4 EXTEND COUNTS**. The display can be changed to read 4_0000 by using the SET key this now signifies part shortening the RUN key will revert to part extend operation, and press ENTER.

The unit is now in normal operating mode and will turn the outputs on according to the above counts.

When the unit has been programmed a note of the counts entered should be made on the programming record sheet.

NOTE: The unit will turn on and off on the next count after the number entered above.

3. Calculating Numbers

This section details how to calculate the number of counts to enter for each output.

External Clock

From the mechanical configuration of the clock sensor:

$$C1 = \frac{\textit{Conveyor sensor pulses}}{\textit{Unit length of conveyor travel}}$$

for example 50 counts/metre.

Measure the distance from the sensor to the spray station.

L1 = Distance of spray station from sensor

Convert this to counts

Output 1 delay to on counts = L1 x C1

If this number were to be put in as Output 1 delay to on counts with the Output 1 extend counts left to 0 then the unit would turn the output on for as many counts as were received while the part was in front of the detector.

This is not normally the case and it is required to turn the output on shortly before the part arrives (e.g. to allow for electrostatic wrap or for powder to reach the part).

If this was done just by modifying the Output 1 delay to on counts so the output comes on before the part reaches the output station, then because the unit only turns on the output for the number of counts that the part is in front of the detector the output would be turned off before all the part had passed the output station. To overcome this a part extend is used and is calculated as follows:

3. Calculating Numbers
(contd.)

Part Extend

Determine:

L2 = Distance before part to turn output on

Determine:

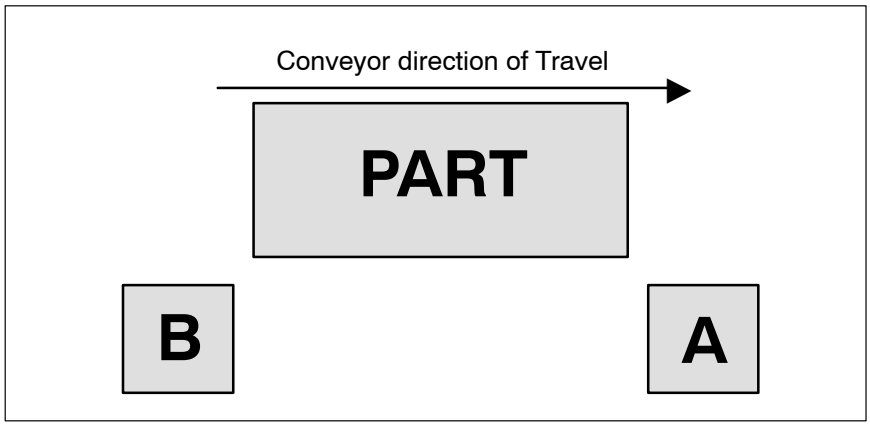
L3 = Distance after part to maintain output on

Modify the values as follows:

Output 1 delay to on counts = C1 x (L1 - L2)
Output 1 extend counts = C1 x (L2 + L3)

Similarly for each of the other used output stations.

Worked example:



If distance to spray station = 1.5 mtrs

A = Spray before part of 0.2 mtrs

B = Spray after part of 0.1 mtrs

Conveyor pulse rate = 100 pulses per metre

Extra distance to spray = A + B = 0.3 mtrs = 30 counts

Delay to on counts = 150 - 20 =130 counts

Part extend = 30 counts

3. Calculating Numbers
(contd.)

Part Shorten

Where it is required to turn on the outputs for less than the part length the following method is adopted.

Start by deciding the Output 1 delay to on counts as above, without any part extend or shorten. Now it must be determined how much less than the part it is required to spray (e.g. to only spray inside a box mounted on a panel).

Determine the distance that is not to be sprayed at the start of the part.

L2 = Delay distance after part

Determine the distance not to be sprayed at the end of the part.

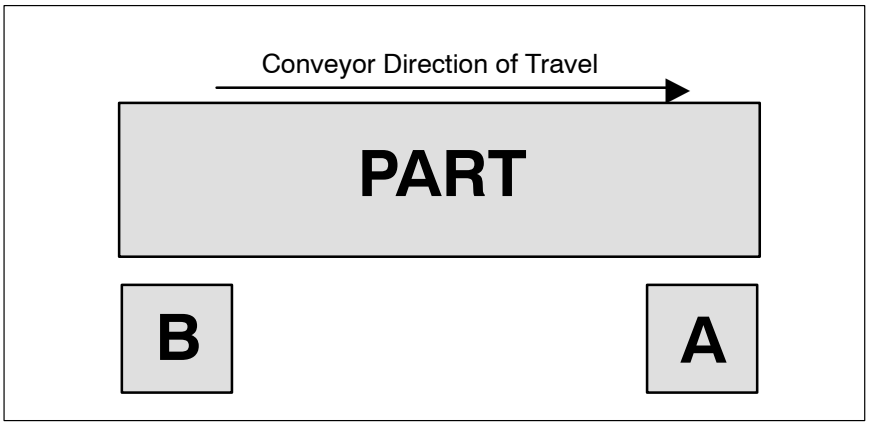
L3 = Distance before end of part

Modify the values as follows

Output 1 delay to on counts = C1 x (L1 - L3)
Output 1 part extend = C1 x (L2 + L3)

Remember to change the display to part shorten when putting in the second value.

Worked example:



If distance to spray station = 1.5 mtrs

A = Spray after front of part has passed station of 0.2 mtrs

B = Spray before end of part passes station of 0.1 mtrs

Conveyor pulse rate = 100 pulses per metre

Distance not to spray = A + B = 0.3 mtrs = 30 counts

Delay to on counts = 150 - 10 = 140 counts

Part reduce = 30 counts

3. Calculating Numbers
(contd.)

Internal Clock

You need to know:

1. The speed of the conveyor in mtrs per minute

2. The configured clock rate in pulses per second, entered when configuring the controller

Determine:

$$C2 = \frac{\text{Configured clock rate } x\ 60}{\text{Conveyor speed}}$$

For example the conveyor runs at 5 mtrs per minute and the internal clock is set to 10 then

$$C2 = \frac{10\ x\ 60}{5}$$

$$C2 = 120 \text{ pulses per metre}$$

Measure the distance to the output station

$$L1 = \text{Distance of spray station sensor}$$

Convert this to counts

$$\text{Output 1 delay to on counts} = L1 \times C2$$

If this number were to be put in as Output 1 delay to on counts with the Output 1 extend counts left to 0 then the unit would turn the output on for as many counts as were received while the part was in front of the detector.

This is not normally the case and it is required to turn the output on shortly before the part arrives (e.g. to allow for electrostatic wrap or for powder to reach the part).

If this was done just by modifying the Output 1 delay to on counts so the output comes on before the part reaches the output station, then because the unit only turns on the output for the number of counts that the part is in front of the detector the output would be turned off before all the part had passed the output station. To overcome this a part extend is used and is calculated as follows:

3. Calculating Numbers
(contd.)

Part Extend

Determine:

L2 = Distance before part to turn output on

Determine:

L3 = Distance after part to maintain output on

Modify the values as follows

Output 1 delay to on counts = C2 x (L1 - L2)
Output 1 extend counts = C2 x (L2 + L3)

Similarly for each of the other used output stations.

Part Shorten

Where it is required to turn on the outputs for less than the part length the following method is adopted.

Start by finding out the Output 1 delay to on counts as above, without any part extend or shorten. Now it must be determined how much less than the part it is required to spray (e.g. to only spray inside a box mounted on a panel).

Determine the distance that is not to be sprayed at the start of the part.

L2 = Delay distance after part

Determine the distance not to be sprayed at the end of the part.

L3 = Distance before end of part

Modify the values as follows

Output 1 delay to on counts = C1 x (L1 - L3)
Output 1 part extend = C1 x (L2 + L3)

Remember to change the display to part shorten when putting in the second value.

Section 5

Maintenance

Section 5
Maintenance

WARNING: Allow only qualified personnel to perform the following tasks. Observe and follow the safety instructions in this document and all other related documentation.

WARNING: Breathing in certain airborne dusts (including finishing powders) may be hazardous to health. Ask the powder manufacturer for a Material Safety Data Sheet (MSDS) for information. Use appropriate respiratory protection.

1. Daily Maintenance

Check the unit for correct operation, rectify any problems found.

There are no user serviceable parts within the controller should a fault occur then the unit must be exchanged.

Section 6

Troubleshooting

Section 6
Troubleshooting

WARNING: Allow only qualified personnel to perform the following tasks. Observe and follow the safety instructions in this document and all other related documentation.

1. Important Hints for Troubleshooting

It must be noted that a fault can occur for several reasons. It is advisable to check all possible causes for a given fault. Obvious causes of malfunction such as broken wires, missing fasteners etc., should be noted during visual inspections and corrected immediately.

The Unit does not contain any user serviceable parts, any parts that fail must be replaced by approved parts available from Nordson.

Operation of the unit can be checked by using the display indications as shown in the previous sections. Use the test mode to operate each output, and check that the equipment being triggered operates.

Section 7

Parts

Section 7
Parts

1. Introduction

To order parts, call the Nordson Customer Service Center or your local Nordson representative. Use the parts list, and the accompanying illustration, to describe and locate parts correctly.

Using the Illustrated Parts List

Numbers in the Item column correspond to numbers that identify parts in illustrations following each parts list. The code NS (not shown) indicates that a listed part is not illustrated. A dash (—) is used when the part number applies to all parts in the illustration.

The number in the Part column is the Nordson Corporation part number. A series of dashes in this column (- - - - - -) means the part cannot be ordered separately.

The Description column gives the part name, as well as its dimensions and other characteristics when appropriate. Indentions show the relationships between assemblies, subassemblies, and parts.

Item	Part	Description	Quantity	Note
—	000 0000	Assembly	1	
1	000 000	• Subassembly	2	A
2	000 000	• • Part	1	

- If you order the assembly, items 1 and 2 will be included.
- If you order item 1, item 2 will be included.
- If you order item 2, you will receive item 2 only.

The number in the Quantity column is the quantity required per unit, assembly, or subassembly. The code AR (As Required) is used if the part number is a bulk item ordered in quantities or if the quantity per assembly depends on the product version or model.

Letters in the Note column refer to notes at the end of each parts list. Notes contain important information about usage and ordering. Special attention should be given to notes.

2. Gun Controller Parts

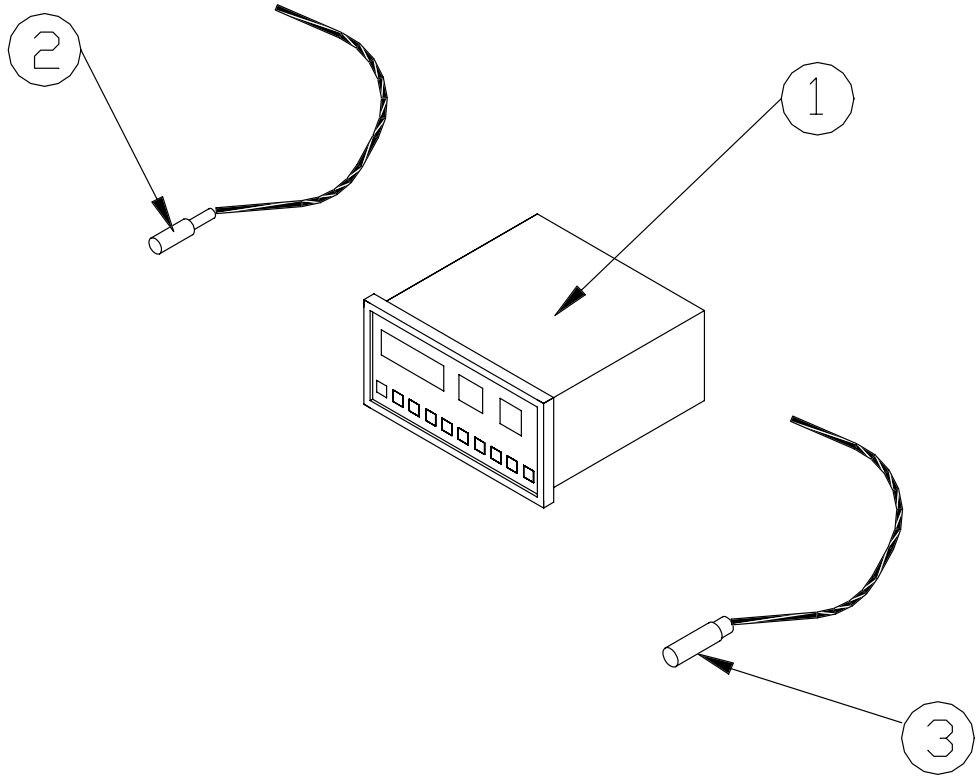


Fig. 7-1 Gun Controller Parts

Item	Part	Description	Quantity	Note
1	765 105	Gun controller	AR	
2	768 913	Sensor, proximity, 8 mm dia	AR	
3	768 912	Sensor, proximity, 12 mm dia	AR	
NS	768 910	Reflective tape per metre	AR	
NS	769 111	Cable, 0.22mm, 4 Core/mtr	AR	

AR: As Required
NS: Not Shown

3. Retro-Reflective Photocell Parts

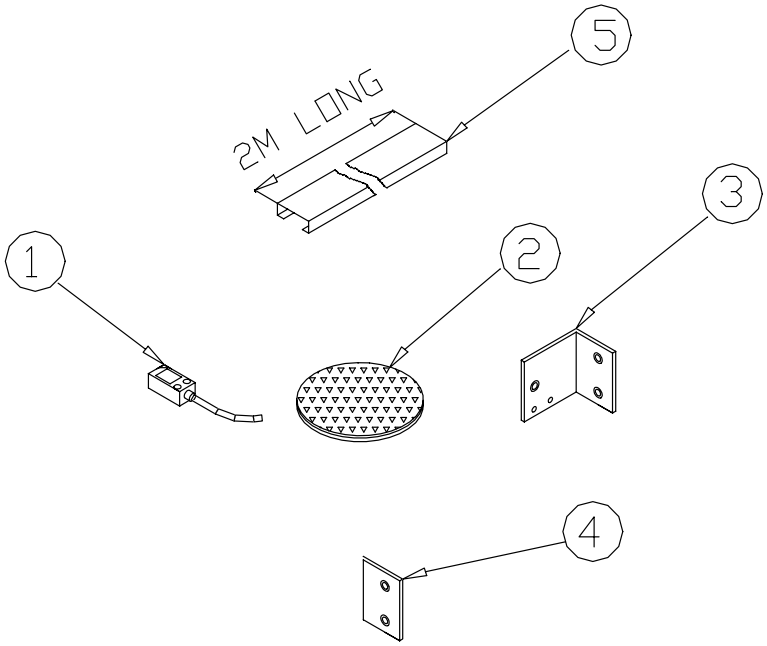


Fig. 7-2 Retro Reflective Photcell Parts

Item	Part	Description	Quantity	Note
1	768 927	Photocell, rectro–reflective, NPN, Gun Controller	AR	
2	768 904	Reflector, disc, photocell	AR	
3	768 918	Bracket, photocell/reflector mounting	AR	
4	768 919	Retainer, for bracket mount	AR	
5	768 921	Rail, low, 2 mtr long	AR	

AR: As Required
NS: Not Shown

4. Through-Beam Photocell Parts

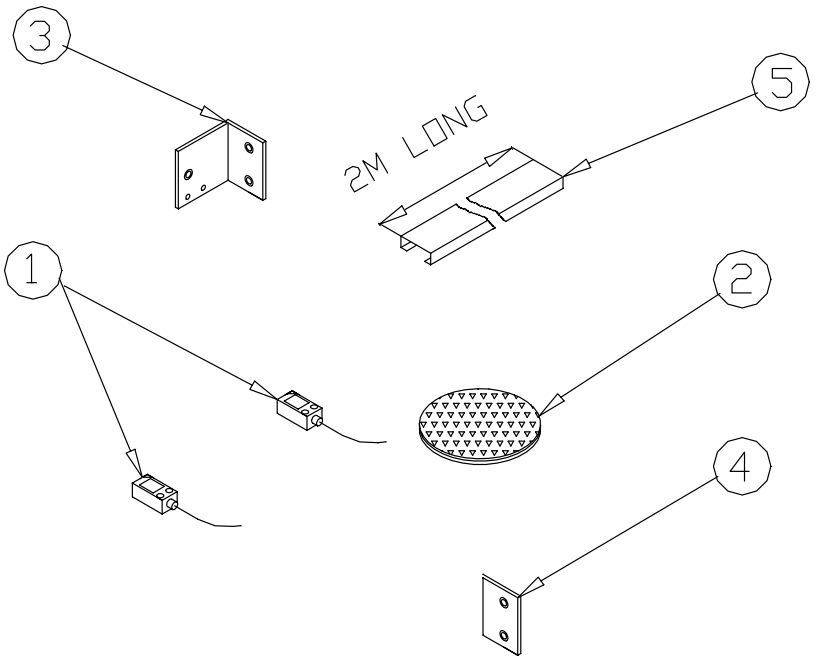


Fig. 7-3 Through Beam Photcell Parts

Item	Part	Description	Quantity	Note
1	768 926	Photocell, through beam,emitter and receiver, NPN, Gun Controller	AR	A
2	768 904	Reflector, disc, photocell	AR	
3	768 918	Bracket, photocell/reflector mounting	AR	
4	768 919	Retainer, for bracket mount	AR	
5	768 921	Rail, low, 2 mtr long	AR	

NOTE A: These items require a 24V supply for operation, the controller has a 12VDC supply and is not suitable for powering these units. A separate supply must be provided by the user.

AR: As Required

NS: Not Shown

Section 8

Specifications

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Specifications

1. Electrical

Voltage (Volt)	240/110
Frequency (Hz)	50
Power (VA)	6
Internal power supply	12 VDC unregulated 200 mA maximum
Inputs	NPN with selectable internal/external supply. Sink current 10 mA at 12V
Outputs	4 relay n/o contacts rated at 3A at 240VAC non-inductive load
Maximum clock speed	50 pulses per second

2. Mechanical

Height	72 mm
Width	144 mm
Depth	141 mm
Panel Cutout	138 x 68 mm

3. Programming Record Sheet

Output 1	Delay to on counts	1	1				
	Output part extend	1	0/-				

Output 2	Delay to on counts	2	1				
	Output part extend	2	0/-				

Output 3	Delay to on counts	3	1				
	Output part extend	3	0/-				

Output 4	Delay to on counts	4	1				
	Output part extend	4	0/-				

4. Configuration Data Sheet

Password selected	
Number of photocells	
Photocell input	
Conveyor stop value	
Clock setting	

5. Electrical Schematic