

Nordson Part Flag Panel Configuration

Introduction

The Nordson Part Flag Panel is a configurable part flag for coating systems using photoeyes or scanners to detect part IDs. The panel has 16 slot knockouts for part identification and a three-digit part ID knockout (seven segments per digit) for panel identification.

This instruction sheet describes setting up the panels for use with the Nordson iControl Integrated Control System. The iControl system has 8 part ID inputs, allowing you to use 8-bit binary coding for 255 unique part ID numbers.

Refer to Parts on page 6 for panel ordering information.

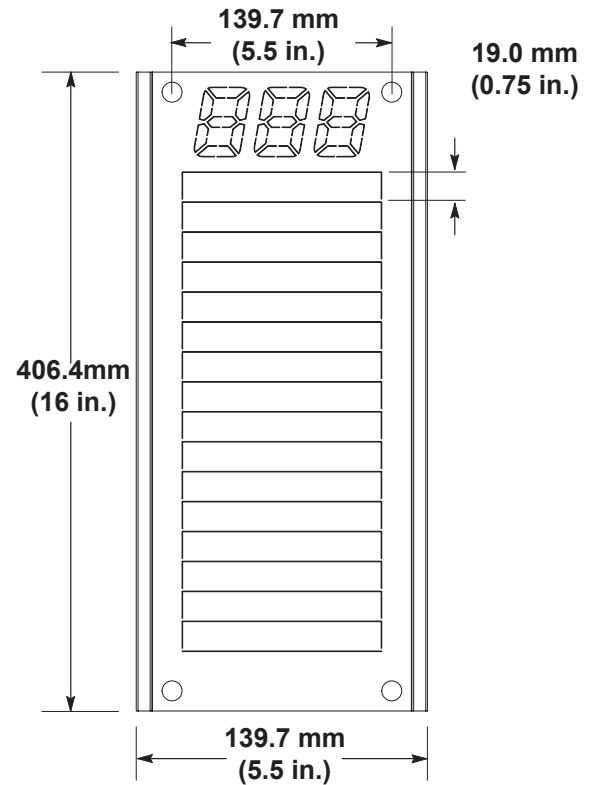


Figure 1 Part Flag Panel

Flag Photoeye/Scanner Configuration

You may use either a scanner or a series of eight individual photoeyes to read the part flag panel.

Scanner

The flag panel slots are spaced on 3/4-in. centers. The Nordson-supplied scanner has 8 beams spaced 3/4-in. apart, which match up exactly with 8 adjoining slots in the flag panel. Either the top or bottom 8 slots in the flag panel can be used.

A typical flag scanner is the Nordson-supplied 6-inch module with 3/4-in. beam spacing. Other scanners may be used but will require custom programming before use.

Scanner Beam Mask

In order for the scanner to properly read the part flag, you must narrow the beams emitted by the scanner.

See Figure 3. Install the scanner beam mask on to the scanner receiver to narrow the beams. Refer to Parts on page 6 for the panel part number and ordering information.

Photoeyes

If you use an array of 8 individual photoeyes, the panel slots you will use depend on the physical spacing of the photoeyes:

- If the photoeyes are spaced 3/4-in. apart, then you must use eight consecutive slots.
- If your photoeyes are spaced 1.5 inches apart, then you must use every other slot.

NOTE: For best results, use through-beam photoeyes and narrow the photoeye beams. Contact the photoeye manufacturer for photoeye masks.

Scanner/Photoeye Installation Guidelines

- Locate the part ID photoeyes or scanner ahead of the zone photoeyes so that the iControl system receives the part ID signal before the leading edge of the part passes in front of the zone photoeyes.
- Install the scanner or photoeyes so that each beam lines up with the horizontal center of the panel slots being used.
- Wire the photoeyes or scanners to the iControl system part ID inputs. Connect part ID 1 to the top photoeye or scanner beam, part ID 2 to the second from the top, and so on. If you reverse this order you must configure the part flag panels accordingly, as shown in Figure 4.
- Set the photoeyes or scanner for breaklight (dark) mode.
- See Figure 2. Go to the iControl photoeye configuration screen and set the flag photoeyes for encoded flagging and the flag filter delay. If using English units (inches), set the flag filter delay value to 2 or 3 inches.

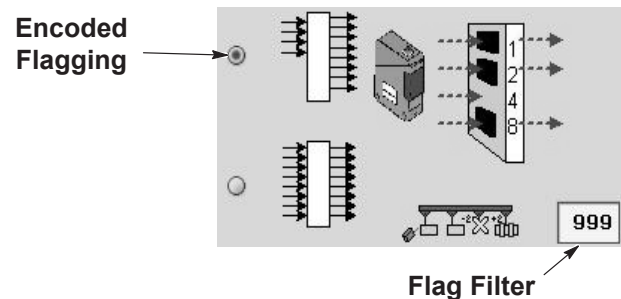
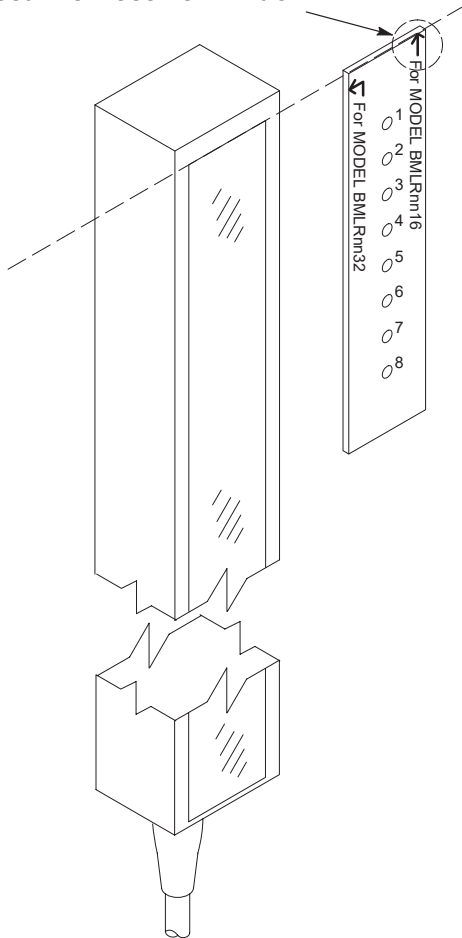


Figure 2 Flag Photoeye Configuration Screen

NOTE: The Flag Filter value is in mm or in., not encoder counts.

Model BMLRnn16 or
MARnn16NX485Q
(3/4-in. beam spacing)

Align this arrow to top of
scanner receiver window



Model BMLRnn32 or
MARnn32NX485Q
(3/8-in. beam spacing)

Align this arrow to top of
scanner receiver window

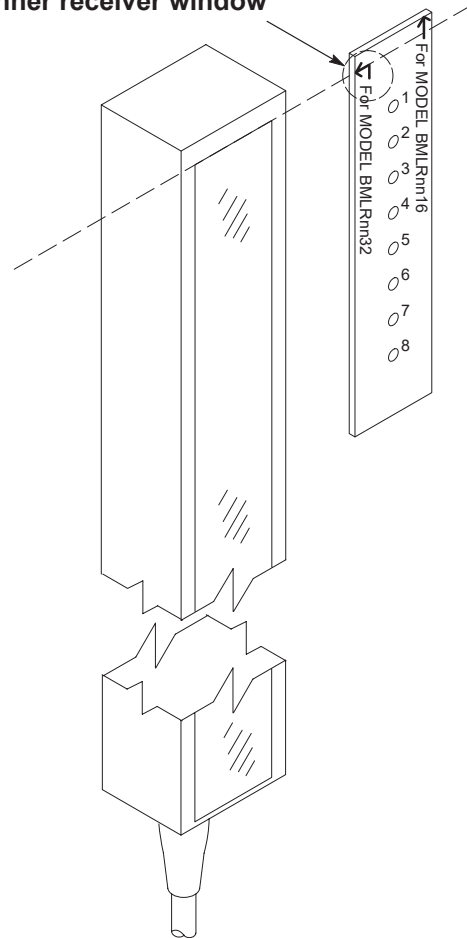


Figure 3 Scanner Beam Mask Installation

NOTE: Apply mask at end opposite the scanner cable.

Flag Configuration

Use the Part ID to Binary Conversion Chart on pages 5 and 6 to translate your part ID numbers into binary numbers. Each digit of a binary number is a bit, and the bits are numbered from right to left, so Bit 1 is the rightmost binary digit.

NOTE: For the iControl system, part ID 0 is not a valid part ID.

See Figure 4 for examples. Remove the slot knockouts to correspond with the binary equivalents of your part ID numbers as follows:

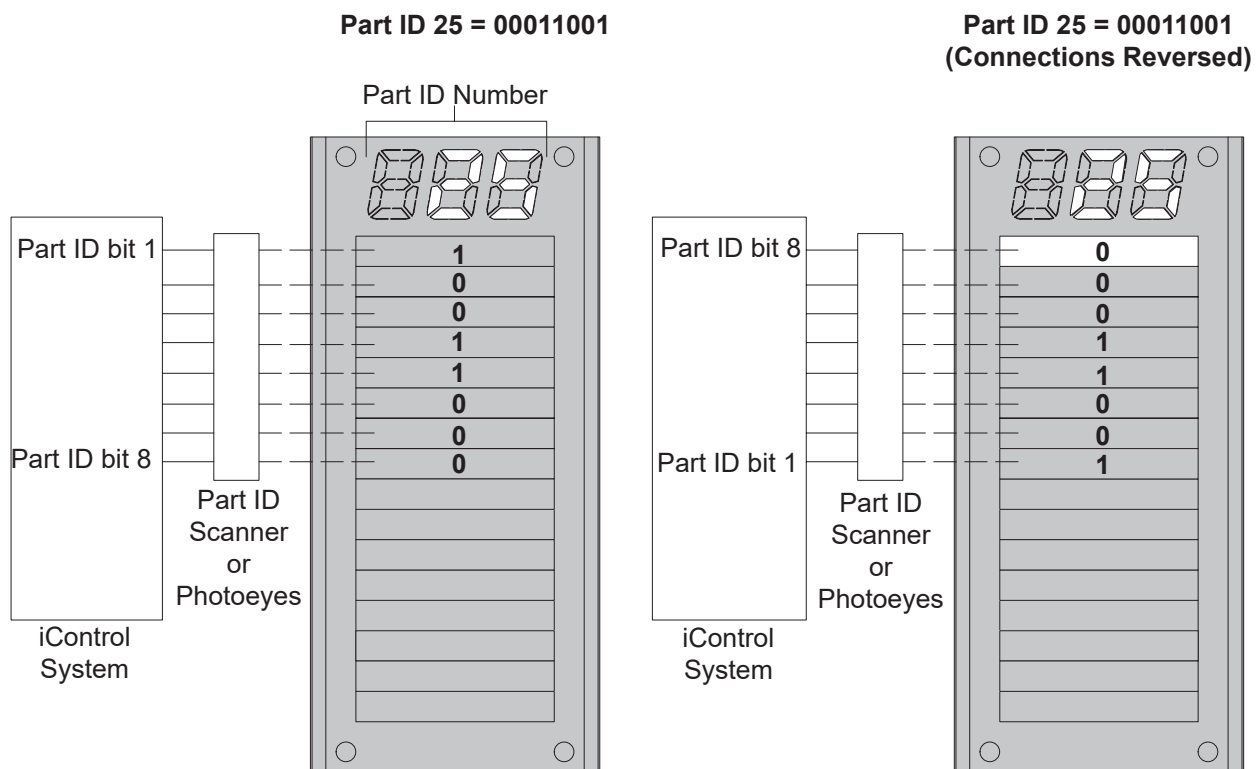
- Closed slots = 1
- Open slots = 0

Note that the way the panel slots are ordered depends on the way your photoeyes or scanner are wired to the iControl system.

Use a flat-bladed screwdriver or needle-nosed pliers to remove the appropriate segments from the three-digit knockouts to form the part ID number.

Once your flag panels are configured, always hang them on the conveyor with the same orientation (part ID number always on top or always on bottom).

The panels have bent leading and trailing edges to permit them to easily move along motion stabilizers. It is important to keep the flags steady while the scanner or photoeyes are reading them.



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Figure 4 Flag Panel Configuration



Part ID to Binary Conversion Chart

Part ID	Binary	Part ID	Binary	Part ID	Binary	Part ID	Binary
0	00000000	64	01000000	128	10000000	192	11000000
1	00000001	65	01000001	129	10000001	193	11000001
2	00000010	66	01000010	130	10000010	194	11000010
3	00000011	67	01000011	131	10000011	195	11000011
4	00000100	68	01000100	132	10000100	196	11000100
5	00000101	69	01000101	133	10000101	197	11000101
6	00000110	70	01000110	134	10000110	198	11000110
7	00000111	71	01000111	135	10000111	199	11000111
8	00001000	72	01001000	136	10001000	200	11001000
9	00001001	73	01001001	137	10001001	201	11001001
10	00001010	74	01001010	138	10001010	202	11001010
11	00001011	75	01001011	139	10001011	203	11001011
12	00001100	76	01001100	140	10001100	204	11001100
13	00001101	77	01001101	141	10001101	205	11001101
14	00001110	78	01001110	142	10001110	206	11001110
15	00001111	79	01001111	143	10001111	207	11001111
16	00010000	80	01010000	144	10010000	208	11010000
17	00010001	81	01010001	145	10010001	209	11010001
18	00010010	82	01010010	146	10010010	210	11010010
19	00010011	83	01010011	147	10010011	211	11010011
20	00010100	84	01010100	148	10010100	212	11010100
21	00010101	85	01010101	149	10010101	213	11010101
22	00010110	86	01010110	150	10010110	214	11010110
23	00010111	87	01010111	151	10010111	215	11010111
24	00011000	88	01011000	152	10011000	216	11011000
25	00011001	89	01011001	153	10011001	217	11011001
26	00011010	90	01011010	154	10011010	218	11011010
27	00011011	91	01011011	155	10011011	219	11011011
28	00011100	92	01011100	156	10011100	220	11011100
29	00011101	93	01011101	157	10011101	221	11011101
30	00011110	94	01011110	158	10011110	222	11011110
31	00011111	95	01011111	159	10011111	223	11011111
32	00100000	96	01100000	160	10100000	224	11100000
33	00100001	97	01100001	161	10100001	225	11100001
34	00100010	98	01100010	162	10100010	226	11100010
35	00100011	99	01100011	163	10100011	227	11100011
36	00100100	100	01100100	164	10100100	228	11100100
Continued...							



Part ID to Binary Conversion Chart *(continued)*

Part ID	Binary	Part ID	Binary	Part ID	Binary	Part ID	Binary
37	00100101	101	01100101	165	10100101	229	11100101
38	00100110	102	01100110	166	10100110	230	11100110
39	00100111	103	01100111	167	10100111	231	11100111
40	00101000	104	01101000	168	10101000	232	11101000
41	00101001	105	01101001	169	10101001	233	11101001
42	00101010	106	01101010	170	10101010	234	11101010
43	00101011	107	01101011	171	10101011	235	11101011
44	00101100	108	01101100	172	10101100	236	11101100
45	00101101	109	01101101	173	10101101	237	11101101
46	00101110	110	01101110	174	10101110	238	11101110
47	00101111	111	01101111	175	10101111	239	11101111
48	00110000	112	01110000	176	10110000	240	11110000
49	00110001	113	01110001	177	10110001	241	11110001
50	00110010	114	01110010	178	10110010	242	11110010
51	00110011	115	01110011	179	10110011	243	11110011
52	00110100	116	01110100	180	10110100	244	11110100
53	00110101	117	01110101	181	10110101	245	11110101
54	00110110	118	01110110	182	10110110	246	11110110
55	00110111	119	01110111	183	10110111	247	11110111
56	00111000	120	01111000	184	10111000	248	11111000
57	00111001	121	01111001	185	10111001	249	11111001
58	00111010	122	01111010	186	10111010	250	11111010
59	00111011	123	01111011	187	10111011	251	11111011
60	00111100	124	01111100	188	10111100	252	11111100
61	00111101	125	01111101	189	10111101	253	11111101
62	00111110	126	01111110	190	10111110	254	11111110
63	00111111	127	01111111	191	10111111	255	11111111

Parts

To order parts, call the Nordson Finishing Customer Support Center at (800) 433-9319 or contact your local Nordson representative.

Part	Description
1047097	PANEL, photoeye, part flag (quantity 1)
1047141	PANEL, part flag, 5 pack
1055867	PANEL, scanner beam mask