INTRODUCTION

SYSTEM OVERVIEW

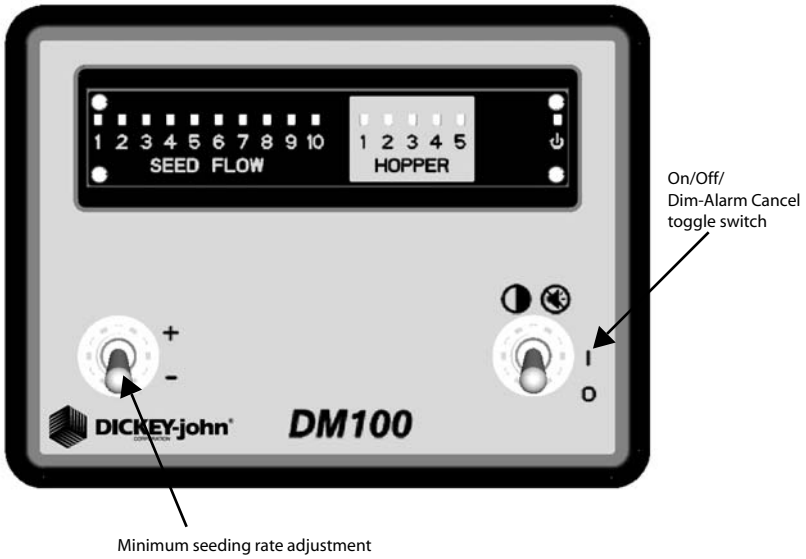
The DICKEY-john DM100 is the economical solution for a reliable, no frills monitor. Loaded with new features and updated technology, the DM100 is perfectly suited for any planter or grain drill monitoring application where only the detection of seed flow is necessary.

DM100 Features:

- Monitors 1-10 rows
- Monitors 1-5 Hopper Level Sensors
- Automatic Sensor Detection
- Reliable LED Row Indicators means no more replacing incandescent bulbs
- Dual function row failure indication allows you to set all LED's to blink while planting and they go out to indicate a row failure, or set all LED's to off while planting and a lit LED indicates a row failure
- LED Brightness Adjustment
- Alarm Silence

Figure 1

DM100 Front Panel



SYSTEM DIAGRAM

The following provides an illustration of the DM100 system.

Figure 2

DM100 System Diagram

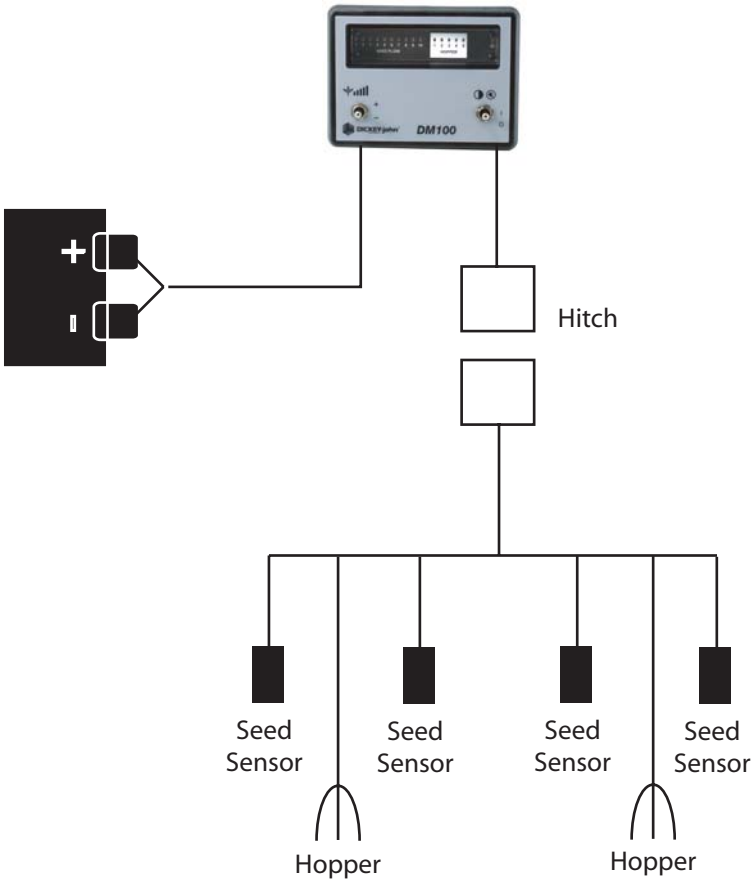


Diagram Notes:

- 2 Section Drill Harnesses
- 4 Seed sensors/2 Hopper level inputs

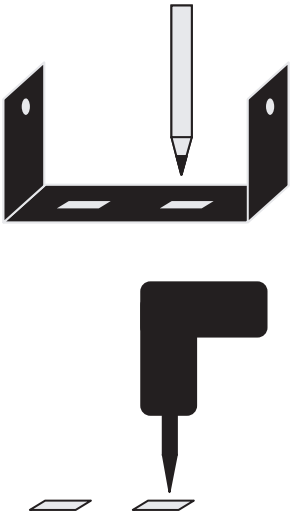
INSTALLATION

MOUNTING

To mount the DM100 console, use the mounting bracket as a template for drilling. Mount the console in a location that is easy to view and easy to reach for alarm silencing.

Figure 3

Console Mounting



Before drilling, assure that your harness can be routed in the manner you prefer. Consider harness placement in regard to operator movement during planting. Harness retention and routing outside of the cab is also important.

⚠CAUTION

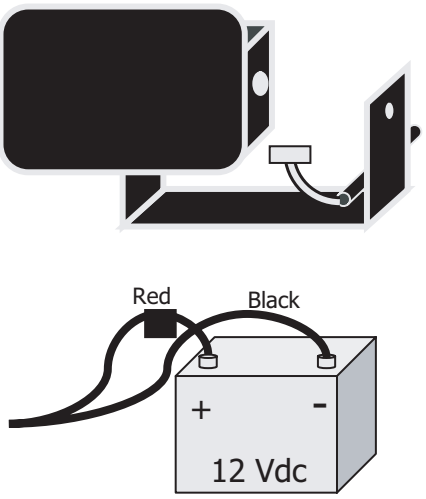
Do not use the enclosure as a guide when drilling. This may cause damage to the mounting bracket.

MONITOR AND POWER CONNECTIONS

Route the power leads of the main harness to the battery. Allow some slack to tie the harness off to the console bracket for strain relief and protection of the harness.

Figure 4

Monitor and Power Connections



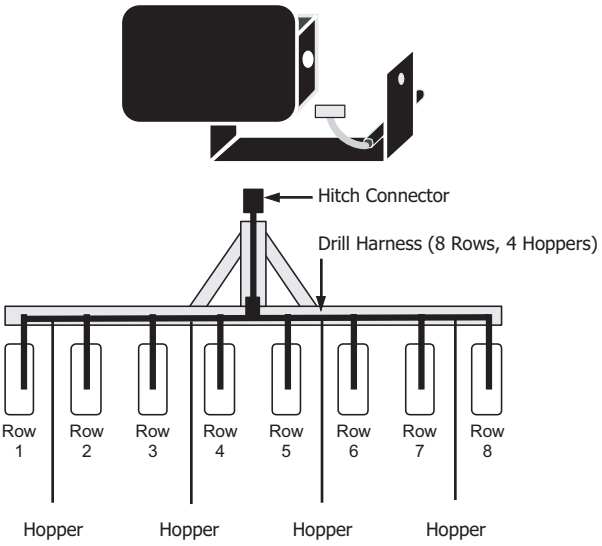
The monitor operates on 12Vdc only. The red (fused) lead should be connected to the positive battery terminal and the black lead should be connected to the negative battery terminal.

HARNESS CONNECTION

Route the monitor harness to the drill harness. Allow some slack to tie the harness off to the console for strain relief and protection of the harness.

Figure 5

Harness Connection



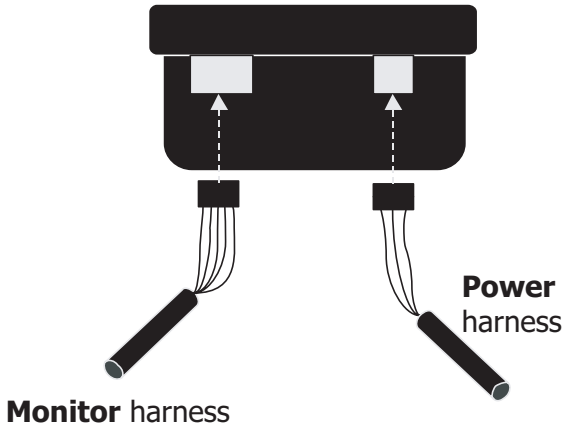
Be sure to adequately constrain the harness through the use of clamps or cable ties to protect against damage.

MONITOR CONNECTION

Insert the connectors into the mating connector inside the bottom of the monitor. Each connector is different and can only be inserted into its mate.

Figure 6

Monitor Connection



Before drilling, assure the harness can be routed in the proper manner. Consider harness placement in regard to air seeder movement during planting.

SYSTEM CONFIGURATION

POWERING UP

Upon power up, the DM100 can be set for monitor mode (blinking LED's), or alarm mode (no LED's blinking).

Moving the I/O (power) switch to the "I" position turns on the monitor. All lights will illuminate for 2 seconds. Toggle and hold the power switch on ("I" position) for 1 second. The monitor will blink and beep, indicating the Alarm Mode is enabled. Release the switch.

MONITOR MODE

Each time a seed is detected, the row light will blink. The maximum blink rate is 20 times per second. Rows that are planting at slower rates will appear to be less intense. If any row falls below two seeds per second detection, the row light will be disabled and an alarm will sound. If a hopper sensor becomes uncovered, the corresponding hopper light will illuminate.

Figure 7 illustrates 8 active seed rows and 5 active hopper sensors. Row 6 is seeding at a decreased rate, so the illuminated LED (when blinking) appears to be less intense. No hopper sensors are uncovered, so they are not illuminated.

Figure 7

Monitor Mode

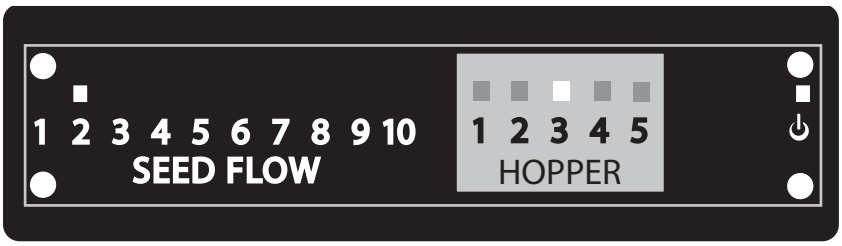
ALARM MODE

All lights will remain darkened while planting rates on all rows remain above two seeds per second. If a row falls below two seeds per second detection, it will illuminate the row light and an alarm will sound. If a hopper sensor becomes uncovered, the corresponding hopper light will illuminate.

Figure 8 illustrates a seeding issue with sensor 2. It also illustrates that hopper sensor 3 has become uncovered, which is indicated by the illuminated LED.

Figure 8

Alarm Mode



SELF TEST AND SENSOR DETECTION

The DM100 will automatically detect which sensors are connected at system start-up. To disable a row from being monitored, turn the monitor OFF, unplug the sensor at the row unit, and turn the monitor back ON. The row will then be disabled.

LED ADJUSTMENT

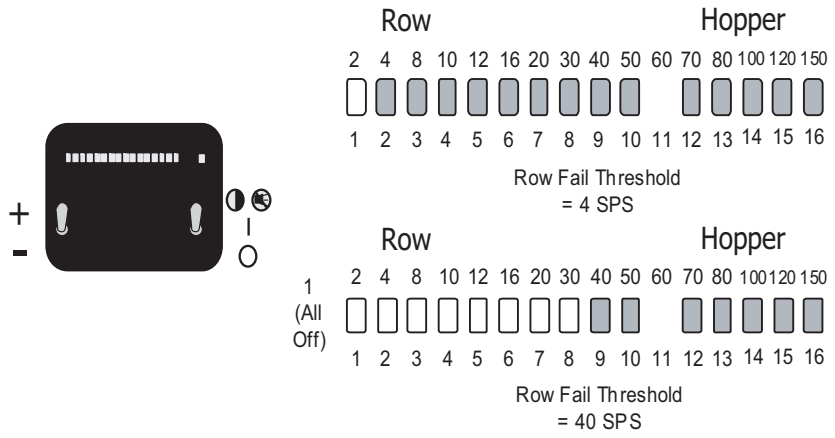
If no alarms are sounding, the LED light intensity may be adjusted by toggling the I/O (power) switch momentarily to the "I" position. LED's will cycle from dark to light.

SEEDS PER SECOND THRESHOLD LEVEL

The Threshold Level (+/-) switch allows the user to change the setting at which the alarm will sound based upon a minimum seeds per second ratio received by the DM100. The threshold level is shown by the number of LED's lit. If the seeding rate is unknown, the threshold level can be increased to the point of failure by momentarily toggling the +/- switch in the positive "+" direction until the alarm sounds. After the alarm sounds, toggle the switch in the negative "-" position 1-3 LED's.

Figure 9

Threshold Level



SYSTEM OPERATION

FAILURE DETECTION - MONITOR MODE

If an ALL ROWS FAILURE is detected, all rows will darken and an alarm will sound. If one or more rows fail, the corresponding row(s) will darken and an alarm will sound. The alarm can be silenced by moving the +/- switch up momentarily to the "+" position. The alarm will remain silent until the ALL ROWS ALARM occurs (typically at the end of the row), the row starts working again, or the monitor power is cycled OFF/ON.

FAILURE DETECTION - ALARM MODE

If an ALL ROWS FAILURE is detected, all rows will illuminate and an alarm will sound. If one or more rows fail, the corresponding row(s) will illuminate and an alarm will sound. The alarm can be silenced by moving the +/- switch up momentarily to the "+" position. The alarm will remain silent until an ALL ROWS ALARM occurs (typically indicating end of the row), the row starts working again, or the monitor power is cycled OFF/ON.

TROUBLESHOOTING GUIDE

UNIT WILL NOT POWER ON. NO LEDS WILL LIGHT DURING THE POWER UP SEQUENCE.

Probable Cause:

1. Loose connection between power harness and monitor
2. Blown fuse
3. Defective monitor or main harness
4. Defective module, harness, or sensor
5. Poor battery connection
6. Insufficient system voltage

Corrective Action

1. Assure harness connections are centered and fully inserted. Assure the main harness is properly connected to the monitor.
2. Check the fuse in the power harness near the battery. If it is blown, replace with a 5A AGC. Assure the positive and negative connections are not reversed.

⚠CAUTION

Do not replace fuse with one having a higher amperage rating - the console could be damaged internally.

3. If the fuse blows again, the power harness or the console may be faulty and requires replacement. Contact your Parts and Service Dealer or call DICKEY-john in the U.S.A. at 1-800-637-3302.
4. Check battery connections and assure they are clean and tight.
5. Make sure battery voltage is between 10 and 16 Vdc.

AN INDICATOR DOES NOT LIGHT OR THE ALARM DOES NOT BEEP DURING POWER UP

Probable Cause

1. Defective monitor

Corrective Action

1. Contact your Parts and Service Dealer or call DICKEY-john in the U.S.A. at 1-800-637-3302. Outside of the U.S., contact your dealer or national distributor or DICKEY-john Europe at 00 33 (0) 1 41 19 21 80.

ONE ROW INDICATOR FAILS TO FLASH WHEN PLANTING. ALARM SOUNDS CONTINUOUSLY. SEEDS ARE BEING PLANTED BY ROW UNIT.

Probable Cause

1. Defective seed sensor

2. Poor harness connection at console or at sensor that is intermittent
3. Defective sensor or harness wire that is intermittent

Corrective Action

1. Clean sensing elements using a dry bottle brush. Some seed treatments require scrubbing with water and a commercial cleanser.
2. Check drill harness connections at the console, hitch, and sensors.
3. Check drill harness for pinched, worn, or broken elements. Swap the sensor with another row. If the problem moves, the sensor is faulty. Otherwise the harness or module is faulty.

UNIT POWERS ON, ALL LEDS LIGHT, BUT NO SENSORS ARE DETECTED

Probable Cause

1. Planter harness is not properly connected
1. Defective (shorted) harness
2. Defective (shorted) sensors

Corrective Action

1. Check drill harness connections at the console, hitch, and sensors.
2. Check drill harness for pinched, worn, or broken elements. Check sensors for pinched, worn, or broken elements.
3. Contact your Parts and Service Dealer or call DICKEY-john in the U.S.A. at 1-800-637-3302. Outside of the U.S., contact your dealer or national distributor or DICKEY-john Europe at 00 33 (0) 1 41 19 21 80.

HOPPER INDICATOR LIGHTS WHILE HOPPER IS FULL

Probable Cause

1. Defective hopper sensor
2. Defective harness

Corrective Action

1. Check sensor for pinched, worn, or broken elements. Contact your Parts and Service Dealer or call DICKEY-john in the U.S.A. at 1-800-637-3302. Outside of the U.S., contact your dealer or national distributor or DICKEY-john Europe at 00 33 (0) 1 41 19 21 80.
2. Check drill harness for pinched, worn, or broken elements. Check sensors for pinched, worn, or broken wires.

DM100 SERVICE PARTS

MONITOR

DM100 Monitor	46794-0105
Mounting bracket	46794-0080
Fuse, AGC 5A	20112-0005
Power harness	46794-0530
Cab drill harness	46794-0590

DRILL HARNESSES

Standard, 2 row, 1 hopper	46794-0602
Standard, 2 row, 2 hopper	46794-0603
Standard, 4 row, 2 hopper	46794-0604
Standard, 6 row, 3 hopper	46794-0605
Standard, 8 row, 4 hopper	46794-0606
Standard, 9 row, 3 hopper	46794-0601
Standard, 10 row, 5 hopper	46794-0600

DRILL EXTENSIONS

Extension cable hitch, 6'	45841-0810
Extension cable, hitch, 15'	45968-0320
Extension cable, hitch, 30'	45968-0321

Dealers have the responsibility of calling to the attention of their customers the following warranty prior to acceptance of an order from their customer for any DICKEY-john product.

DICKEY-john® WARRANTY

DICKEY-john warrants to the original purchaser for use that, if any part of the product proves to be defective in material or workmanship within one year from date of original installation, and is returned to DICKEY-john within 30 days after such defect is discovered, DICKEY-john will (at our option) either replace or repair said part. This warranty does not apply to damage resulting from misuse, neglect, accident, or improper installation or maintenance. Said part will not be considered defective if it substantially fulfills the performance expectations. THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES OF MERCHANTABILITY, FITNESS FOR PURPOSE, AND OF ANY OTHER TYPE, WHETHER EXPRESS OR IMPLIED. DICKEY-john neither assumes nor authorizes anyone to assume for it any other obligation or liability in connection with said part and will not be liable for consequential damages. Purchaser accepts these terms and warranty limitations unless the product is returned within fifteen days for full refund of purchase price.

For DICKEY-john Service Department,
call 1-800-637-3302 in either the U.S.A. or Canada

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