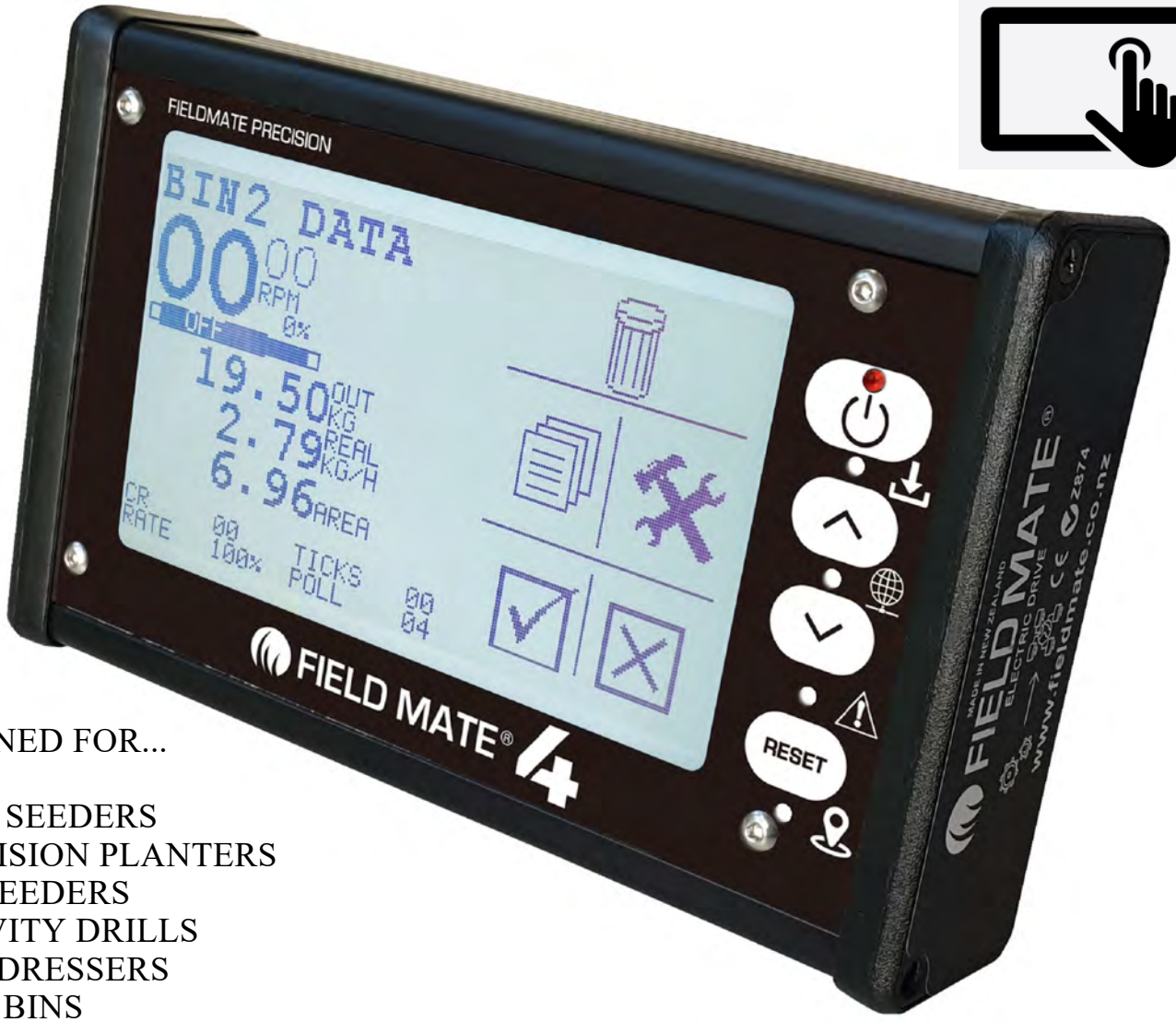
FIELD MATE®

Seed Drill
Electric Drive System



DESIGNED FOR...

- PLOT SEEDERS
- PRECISION PLANTERS
- AIR SEEDERS
- GRAVITY DRILLS
- SIDE DRESSERS
- FERT BINS

  MORE.....

Users Guide
and
Installation Manual

V1.1

FieldMate Warranty

IMPORTANT - PLEASE READ BEFORE PURCHASING.

Please ensure you agree to the warranty conditions before purchasing this product.

The details of the FieldMate Warranty are as follows. The warranty details apply to all new FieldMate products purchased through any purchasing channel which may include our OEM service, dealer network and direct sales to end users in any country.

By purchasing this product you have agreed with the terms of the FieldMate warranty.

The FieldMate warranty is a **One Year** return to factory Warranty as outlined below.

Gtech New Zealand Limited does not offer on site support for the FieldeMate product.

What Gtech NZ Ltd covers under warranty:

If a part fails we will ship new parts or loan parts at our cost.
We will decide if a failed item will be fixed or replaced.
All failed parts must be returned to us at your cost.
Any repaired parts will be returned to you at our cost.
Any loan parts must be returned to us with in 14 days of replacement parts being sent to you.
Failure to return loan parts will result in an invoice being issued to you for the loan parts.

What Gtech NZ Ltd does not cover or will not accept:

We do not cover the costs incurred to replace FieldMate parts.
We do not cover the costs incurred to fault find FieldMate parts.
We do not cover the costs incurred to remove or fit FieldMate Parts.
We do not cover the shipping costs for any FieldMate Parts that are returned to us. We do not cover wear and tear on sensors or AN**Y** connectors used on the system.
We do not cover installation wiring that is used to power the fieldmate system. *Please ensure your power supply system wiring is suitable to supply power to the fieldmate System. If you are not sure if the power supply system is suitable for the FieldMate system please ask for assistance from your FieldMate supplier.*

NOTE: Gtech New Zealand Limited is in no way liable or responsible for any mishaps, planting irregularities that result from using the FieldMate System.
It is the sole responsibilty of the operator or dealer to:

- Correctly set the FieldMate system ensuring it is operating with out issue.
- Ensure that the FieldMate system is fit for the entended purpose.
- Test the FieldMate system after installation to ensure it operates as expected and is fit for use.

Operator requirements :

The operator should understand the FieldMate E-drive system and if needed drill test runs with a bag on the metering system to ensure the correct amounts is being released by the system.

"FIELD MATE" EXPRESS LIMITED WARRANTY AND LIMITATION OF LIABILITY AGREEMENT

Where the word "FIELD MATE™" Area Meter appears it means the "FIELD MATE™" Area Meter circuit board which includes a hard ware component and a leased Firmware component and/or Field Mate Download Application, enclosure and wiring assembly only. Does not refer to any additional wiring added to the "FIELD MATE™" Area Meter system during installation. The Firmware running in the "FIELD MATE™" Area Meter and/or Field Mate Download Applicationis a zero fee leased copy and is not part of the "FIELD MATE™" Area Meter purchase agreement. The Firmware and/or Field Mate Download Application lease runs for the life of the product. G-Tech NZ Ltd remains the sole owner of the Firmware running in the "FIELD MATE™" Area Meter and/or Field Mate Download Application.

Express Limited warranty.

G-TECH NZ LTD warrants the "FIELD MATE™" Area Meter to be free from defects in materials and workmanship for a period of 12 months from the original date of sale to the end user or for a period of eighteen months from the date of factory shipment, whichever is sooner. If the product fails, customers should at their cost return the "FIELD MATE™" Area Meter to G-TECH NZ LTD. At the exclusive option of G-TECH NZ LTD , to either :

(a) Repair the "FIELD MATE™"Area Meter .

(b) Replace the "FIELD MATE™" Area Meter .

(c) If G-TECH NZ LTD is unable to replace / repair or correct firmware or hardware errors, G-TECH NZ LTD will refund the price paid for the "FIELD MATE™"Area Meter .

These are your sole remedies for any breach of warranty.

The warranty does not apply to "FIELD MATE™" Area Meter's which have been improperly installed, subjected to extremes beyond the limits of G-TECH NZ LTD specifications, or which have been physically damaged. Nor does it apply to "FIELD MATE™" Area Meter's found to be defective due to abuse, electrical discharge, under temperature, over temperature, improper power application , damage resulting from acts of war or any damage incurred due to acts of nature, salt or fresh water immersion or spray, or improper or unauthorized repair. Freight charges for products returned to G-TECH NZ LTD should be pre-paid by the customer. G-TECH NZ LTD will prepay freight charges for returning the "FIELD MATE™" Area Meter to the customer, provided that the "FIELD MATE™" Area Meter proved defective under the terms and conditions of the warranty.

Note:

Non G-TECH NZ LTD authorized individuals are discouraged from performing repairs on G-TECH NZ LTD products. Opening of the product by unauthorized individuals will void the product warranty. Damage incurred as a result of non G-TECH NZ LTD service attempt will be considered abuse and repairs will not be covered under warranty or standard repair pricing by G-TECH NZ LTD .

Limitation of liability

In no event will G-TECH NZ LTD or any person involved in the creation, production or distribution of the G-TECH NZ LTD "FIELD MATE™" Area Meter be liable to you on account of any claim for any damages including any lost of profits , lost savings, or other special, incidental, consequential, or exemplary damages, including but not limited to any damages assessed against or paid by you to any third party, rising out of the use, liability to use, quality or performance of the G-TECH NZ LTD "FIELD MATE™" Area Meter , even if G-TECH NZ LTD or any such person or entity has been advised of the possibility of damages or for any claim by any other party. ***G-TECH NZ LTD total liability under any provision of this agreement is in any case limited to the amount actually paid by you for the*** *"FIELD MATE™" Area meter.*

Description of other rights and limitations.

Limitations on reverse engineering, Decompilation and Disassembly. You may not reverse engineer, decompile, disassemble or upload the Firmware.

Rental. You may not rent or lease the "FIELD MATE™"Area Meter .

Copyright. All title and copyrights in and to the "FIELD MATE™"Area Meter , the accompanying printed material and copies of the firmware are owned by G-TECH NZ LTD. You may not copy the printed material accompanying the "FIELD MATE™" Area Meter . All rights not specifically granted under this agreement are reserved by G-TECH NZ LTD.

ACCEPTANCE OF TERMS

I the under signed Purchaser of the "FIELD MATE™" Area Meter computer have read the above Warranty and Limitations of liability Agreement and agree to the conditions and limitations as stated above.

Unit Serial Number : .....

Start Date of Agreement : .....

Purchaser Company Name : .....

Purchaser Address : .....

.....

Purchaser Name Printed : .....

Ver 1.**6**

FIELD MATE$_{tm}$ USER MANUAL

If you Need to Call Customer Service
Please complete the following information for future reference:
Field Mate Model* :.....
Serial Number * :.....
Date Purchased :.....
Place of Purchase:.....

* The Serial/Model Number is displayed in the Information Screens of the meter.

IMPORTANT:

To obtain the highest Precision Surface Area / Work done Measurement:

- The Speed sensor must be mounted on a wheel that is not subject to slip or spin during the Surface Area Measurement mode. ie: When not in Hold mode.
- Straight line operation (if a radar or GPS spped pulse is NOT used) is best suited for surface area measurement as tight turns of implement / vehicle will result in a lesser or greater number of wheel turns. High precision mesurement is best achieved by working to straight lines.
- Wheel size and implement working width should be measured as required to ensure the sizes used by the meter, reflect the real world sizes of the implement / vehicle. It is the users responsiblity to ensure the sizes in the meter are correct.
- When Work is not being measured, the meter must indicate this by going into Hold mode.ie: Hold light on, "HOLD" flashing on working screen.

Introduction:

Air Seeders – Plot Seeders – Gravity Drills – Precision Seeders

The FIELD MATE Electric drive system has been developed to replace the mechanical drive system on 'any' seed drill. The system allows for fast seed drill calibration, taking all the hassel out of setting up the drilling rate of the drill, allowing you to get the job done!

The system is supplied with a drive motor that this connected to the seed drills metering shaft. The system can take a speed pulse from any of the following, ground wheel – Radar (either mounted on drill or the tractor radar) or a GPS speed sensor.

The system uses a HOLD signal to instruct the drive motors to operate. The HOLD signal can come from a sensor mounted on drill or from a user operated switch in the case of a roller drill. The HOLD signal can even be supplied from a GPS system that will control the electric drive operation from a given drilling map.

The system supports up to 4 drive motors. If any of the motors or metering units develop a fault the user is informed of the issue via the in cab mounted FieldMate III monitor.

The state of art electronic drive hardware continuously monitors the power supplied to the drive motors. In the event that a metering unit jams (EG: due to an obstruction in the metering unit) the power will be limited to the motor and the user will be informed of a motor STALL event. The power limiting feature prevents the fuses from blowing , the message on the monitor alerts the user to the issue so a fix can be implemented and drilling operations can continue.

Warranty :

1 Year return to factory Warranty on Electric Drive components, sensors and Downloading support hardware.
Please ensure you agree to the warrantry conditions before proceeding to purchase this product, read the warranty form at the end of this user guide. Installation wiring to sensors and wear and tear on connectors not covered.

NOTE: Gtech New Zealand Limited is in no way liable or responsible for any mishaps, planting irregularities that result from using this product.
It is the sole responsibilty of the operator or dealer to set the Electric drive system up correctly and to monitor the system to ensure it is operating with out issue.
The operator should understand the system and if needed drill test runs with a bag on the metering system to ensure the correct amounts is being released by the system.

We are here to help. Call your dealer support 'Anytime' if you have even the smallest question.

EMC Certification:

Electro magnetic interference emmission certification are a series of tests that required to be passed before a electronic device can be sold. These tests are related to how much electron magnetic radiation is emmitted by an electronic device.

The FieldMate 4 complies with C-Tick EMC standard for Australia and New Zealand

Certification	Countries
C-Tick Z874 Class B	New Zealand, Australia

SPECIFICATIONS

Specifications:

Supply volts	:	8 – 15 Volts Note: When the supply voltage is under 8volts the motors will stop.
Monitor Current	:	0.1 Amps
Temperature	:	-5 to 55 degree/C
Max Width	:	99.99 Meters
Distance	:	999.99 km
Max Speed	:	20 km/Hr
Min Speed	:	0.6 km/Hr
Wheel Size	:	999.9 cm
Max Motor Amps	:	20 amps per motor

Features:

- Touch screen and button press keybard for easy fast operation

- Up to 4 metering unit motors.

- Up to 4 metering unit motorsHardware fault monitors on all motor channels.

- Real time motor RPM displayed to give real world performance measurment

- Fast and simple drill calibration.

- Instant feed back on system operation when setting the drilling rate.

- Can be set up to work in KG/Hect mode or precision seeding or Plot Seeder control mode.

- Prestart mode available for air seeder.

- Low bin feature available.

- Fan speed available

- Auto greaser control available.

- All information retained on monitor.

- Report feature available.

- All inputs high voltage protected.

- Adjustable cell wheel (seed singulator) prime speed for Plot seeder.

Protect the motor from water.

- Do NOT steam clean the motor -

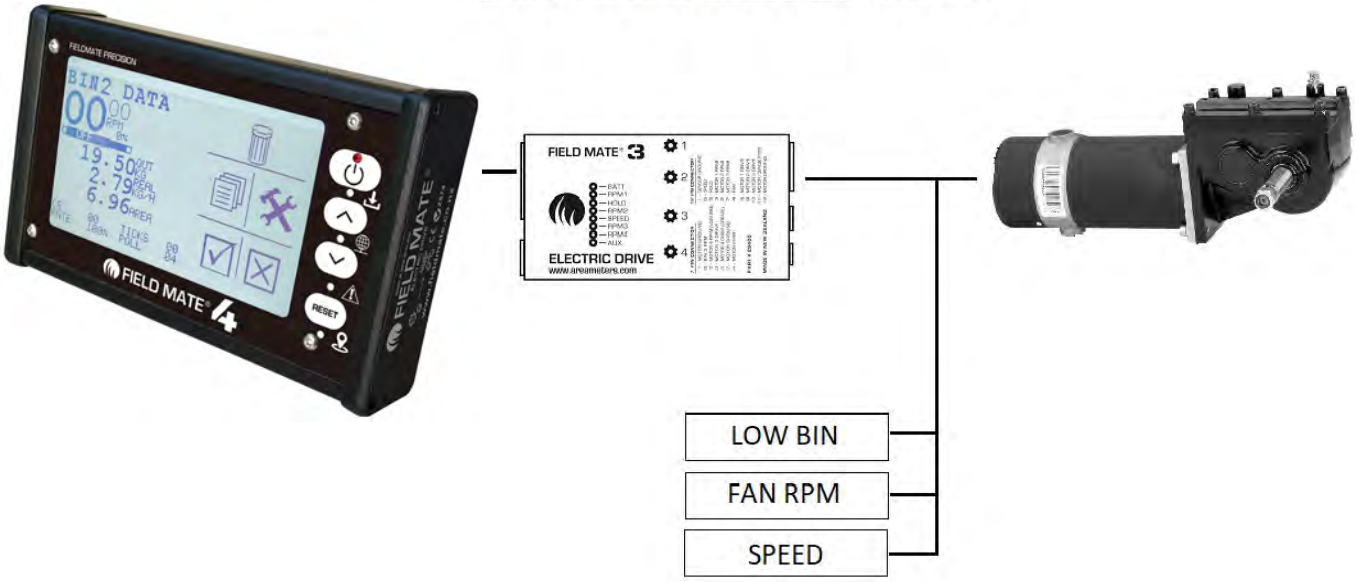
- Protect from driving rain -

Water Damage is NOT covered by warranty

FIELD MATE®

FIELD MATE® 4

1 MOTOR SYSTEM

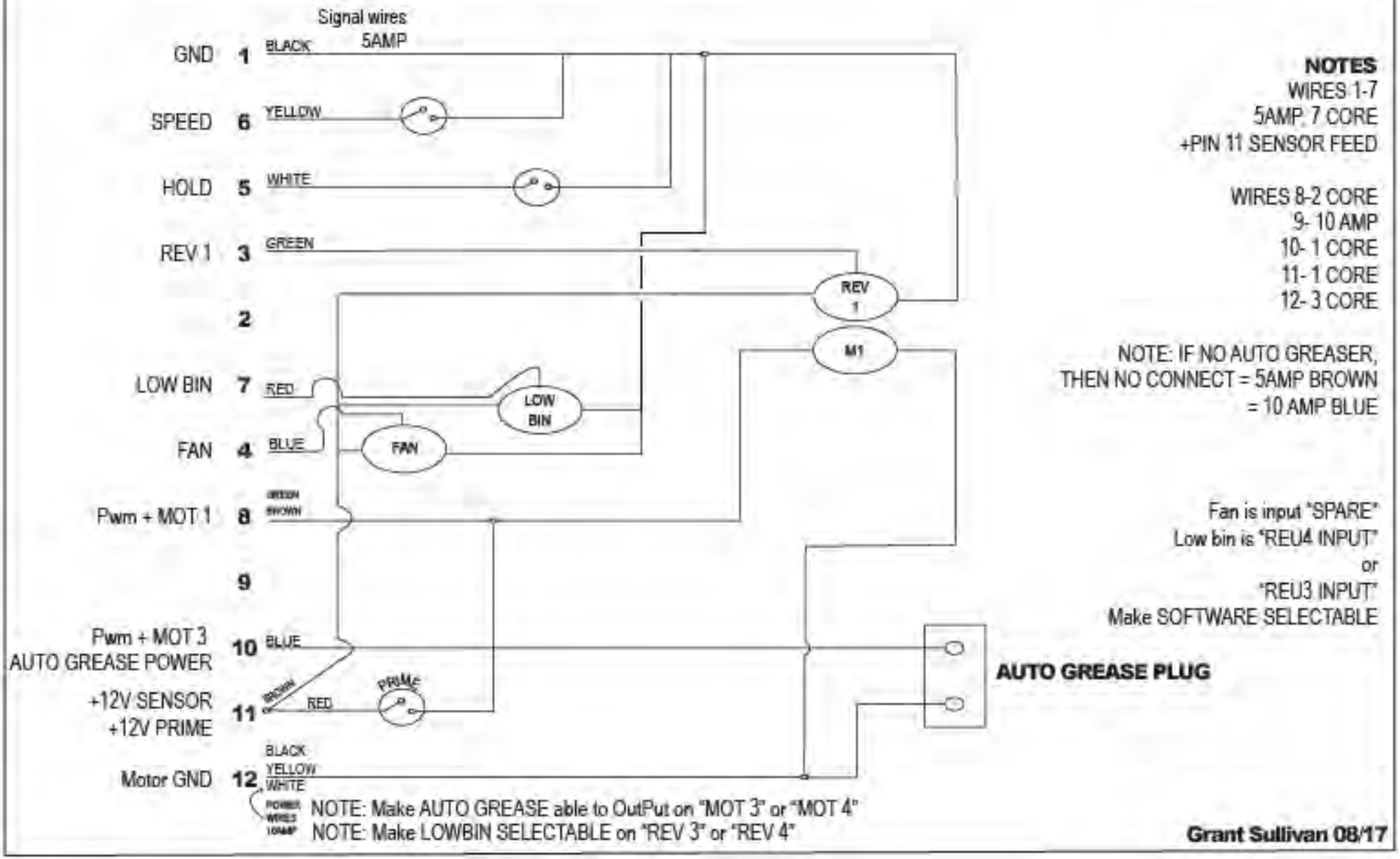


Wiring Connections:
12 Pin Connector

1-	Ground	Black	Ground signal to all sensors
6-	Speed	Yellow	Speed pulse
5-	Hold	White	Hold signal
3-	RPM 1	Green	Motor 1 rpm pulse
2-			
7-	Low Bin	Red	Low Bin Signal (optional)
4-	Fan	Blue	Fan rpm Pulse (optional)
8-	Drive 1	Brown Green	PWM motor 1 power
9-			
10-	Drive 3	Blue	Auto Greaser power (optional)
11-	Power	Brown Red	Power for sensors, prime motors
12-	Ground	Black Yellow White	Motor Ground

FIELD MATE®
PRECISION

FIELD MATE III 1 MOTOR SYSTEM
+ AUTO GREASE + FAN + LOW SEED



NOTES
WIRES 1-7
5AMP, 7 CORE
+PIN 11 SENSOR FEED

WIRES 8-2 CORE
9- 10 AMP
10- 1 CORE
11- 1 CORE
12- 3 CORE

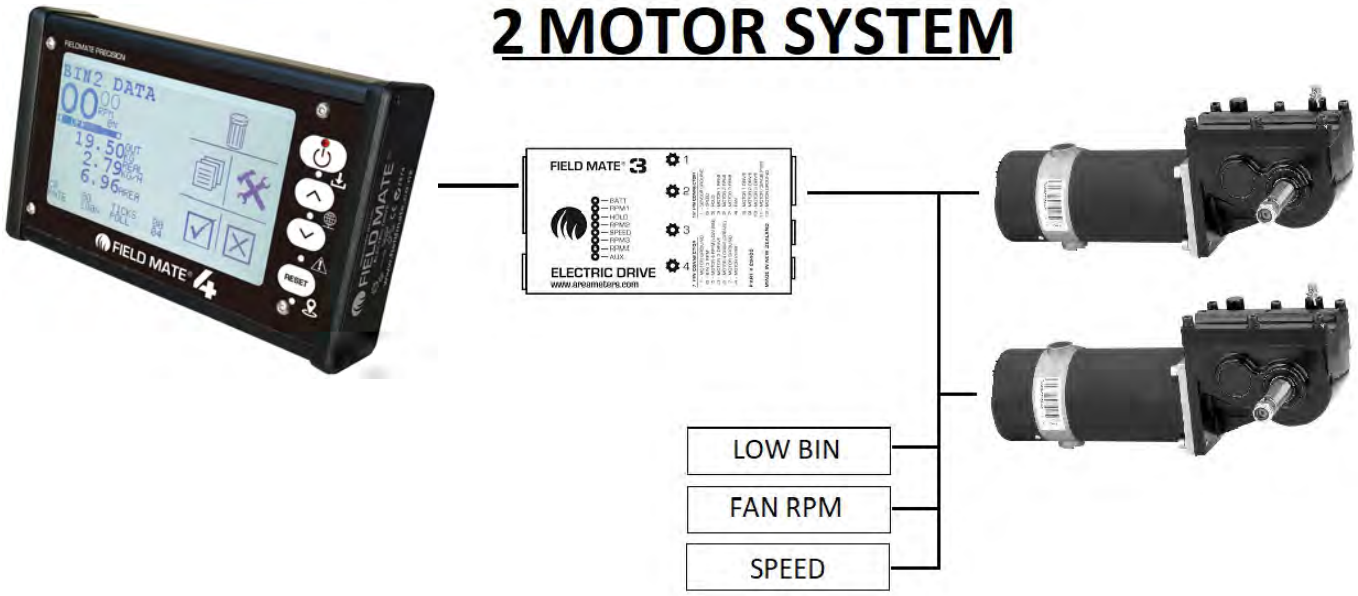
NOTE: IF NO AUTO GREASER,
THEN NO CONNECT = 5AMP BROWN
= 10 AMP BLUE

Fan is input "SPARE"
Low bin is "REU4 INPUT"
or
"REU3 INPUT"
Make SOFTWARE SELECTABLE

Grant Sullivan 08/17

FIELD MATE® 4

2 MOTOR SYSTEM

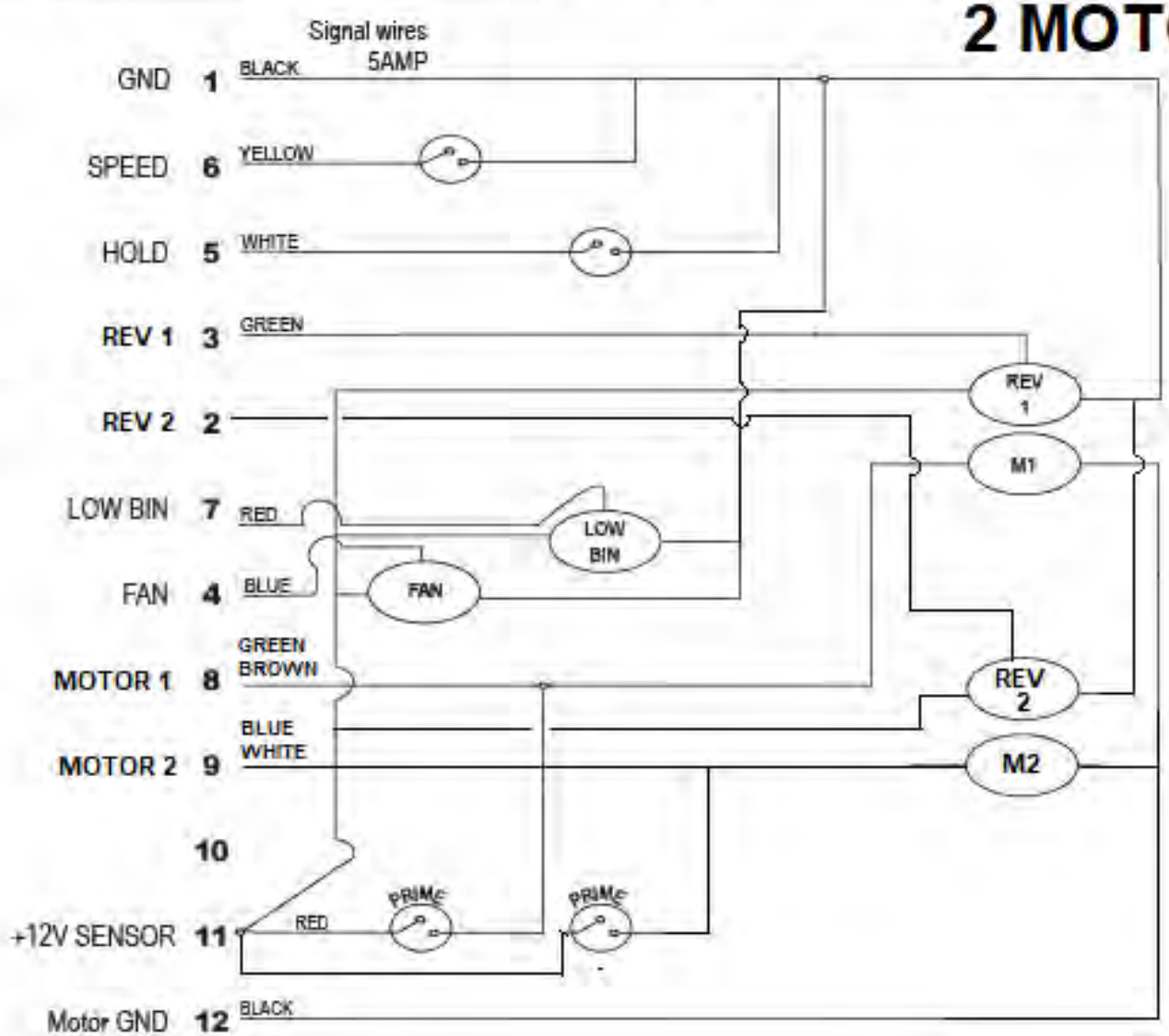


Wiring Connections:
12 Pin Connector

1-	Ground	Black	Ground signal to all sensors
6-	Speed	Yellow	Speed pulse
5-	Hold	White	Hold signal
3-	RPM 1	Green	Motor 1 rpm pulse
2-	RPM 2	Brown	Motor 2 rpm pulse
7-	Low Bin	Red	Low Bin Signal (optional)
4-	Fan	Blue	Fan rpm Pulse (optional)
8-	Drive 1	Brown Green	PWM motor 1 power
9-	Drive 2	White Blue	PWM motor 2 power
10-	Drive 3	Black	Auto Greaser power (optional)
11-	Power	Brown Red	Power for sensors, prime motors
12-	Ground	Black	Motor Ground 8mm

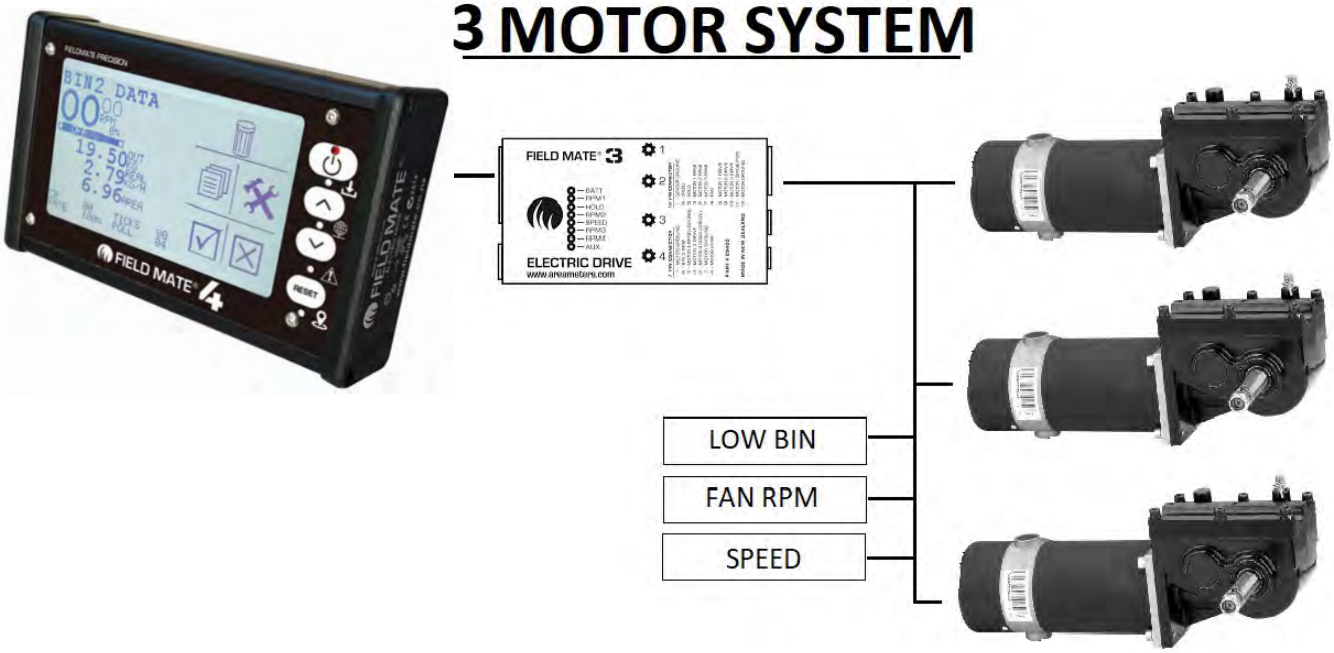
FIELD MATE®
PRECISION

2 MOTOR + FAN + BIN



FIELD MATE® 4

3 MOTOR SYSTEM

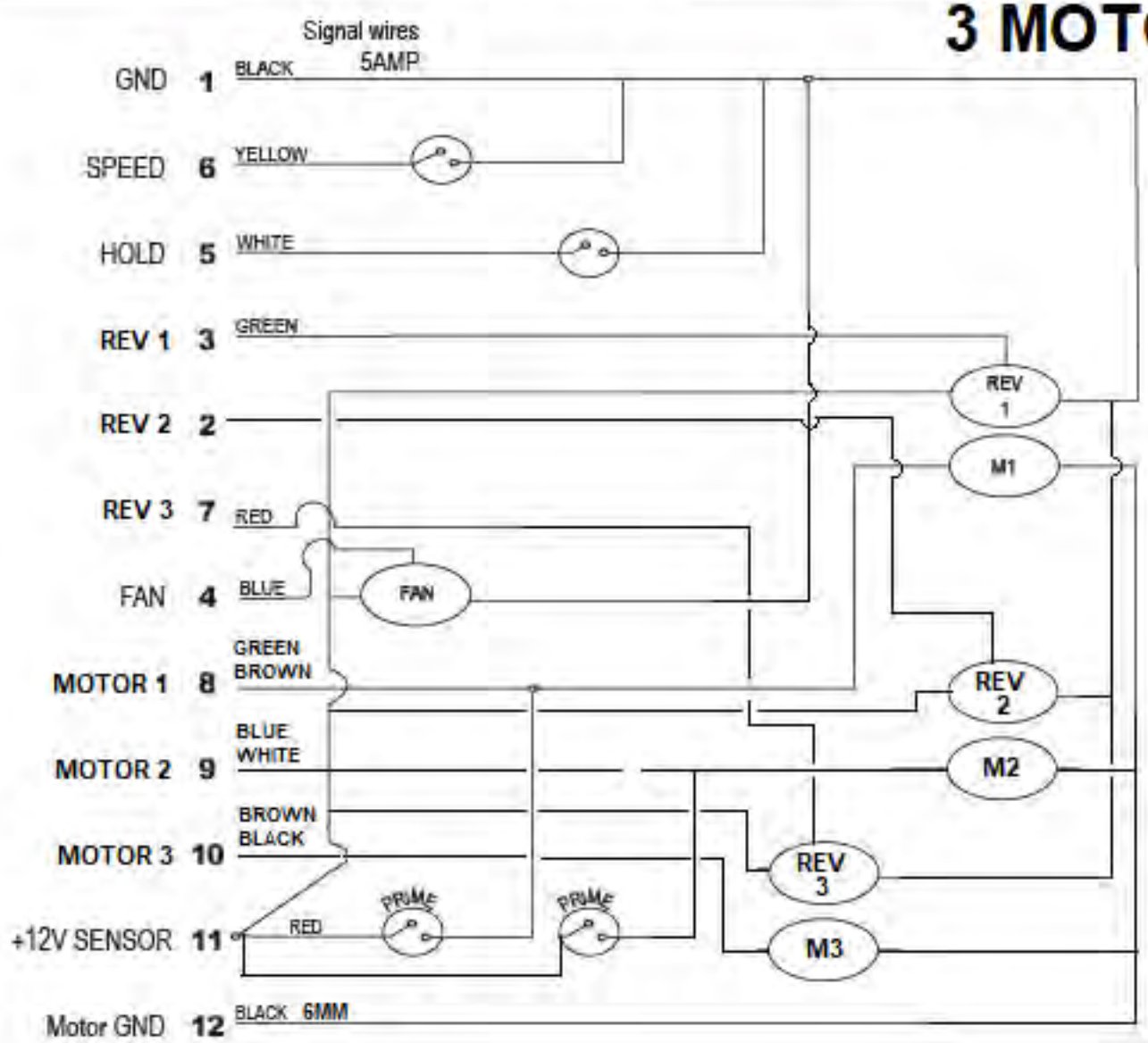


Wiring Connections:
12 Pin Connector

1-	Ground	Black	Ground signal to all sensors
6-	Speed	Yellow	Speed pulse
5-	Hold	White	Hold signal
3-	RPM 1	Green	Motor 1 rpm pulse
2-	RPM 2	Brown	Motor 2 rpm pulse
7-	RPM 3	Red	Motor 3 rpm pulse
4-	Fan	Blue	Fan rpm Pulse (optional)
8-	Drive 1	Brown Green	PWM motor 1 power
9-	Drive 2	White Blue	PWM motor 2 power
10-	Drive 3	Black Yellow	PWM motor 3 power
11-	Power	Brown Red	Power for sensors, prime motors
12-	Ground	Black	Motor Ground 8mm

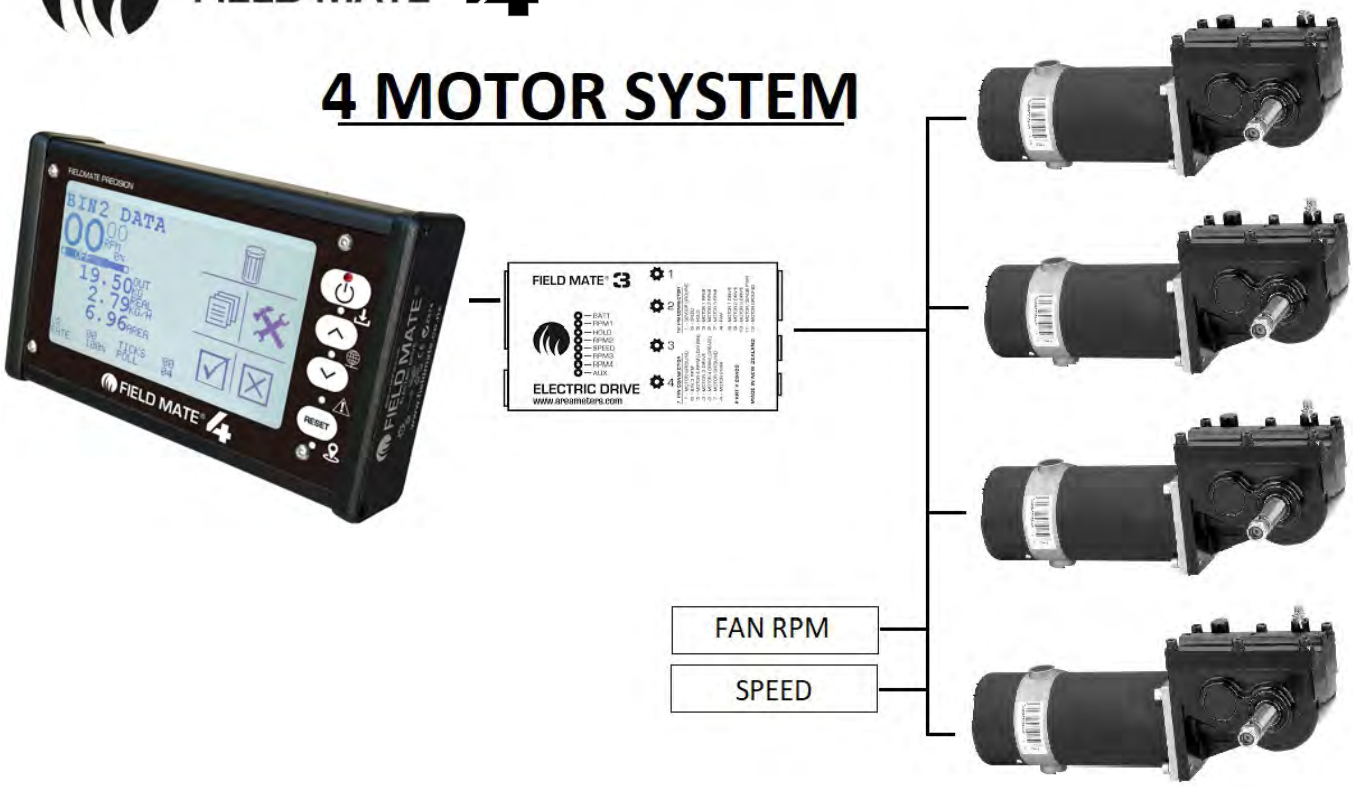
FIELD MATE®
PRECISION

3 MOTOR + FAN + BIN



FIELD MATE® 4

4 MOTOR SYSTEM



Wiring Connections:

12 Pin Connector

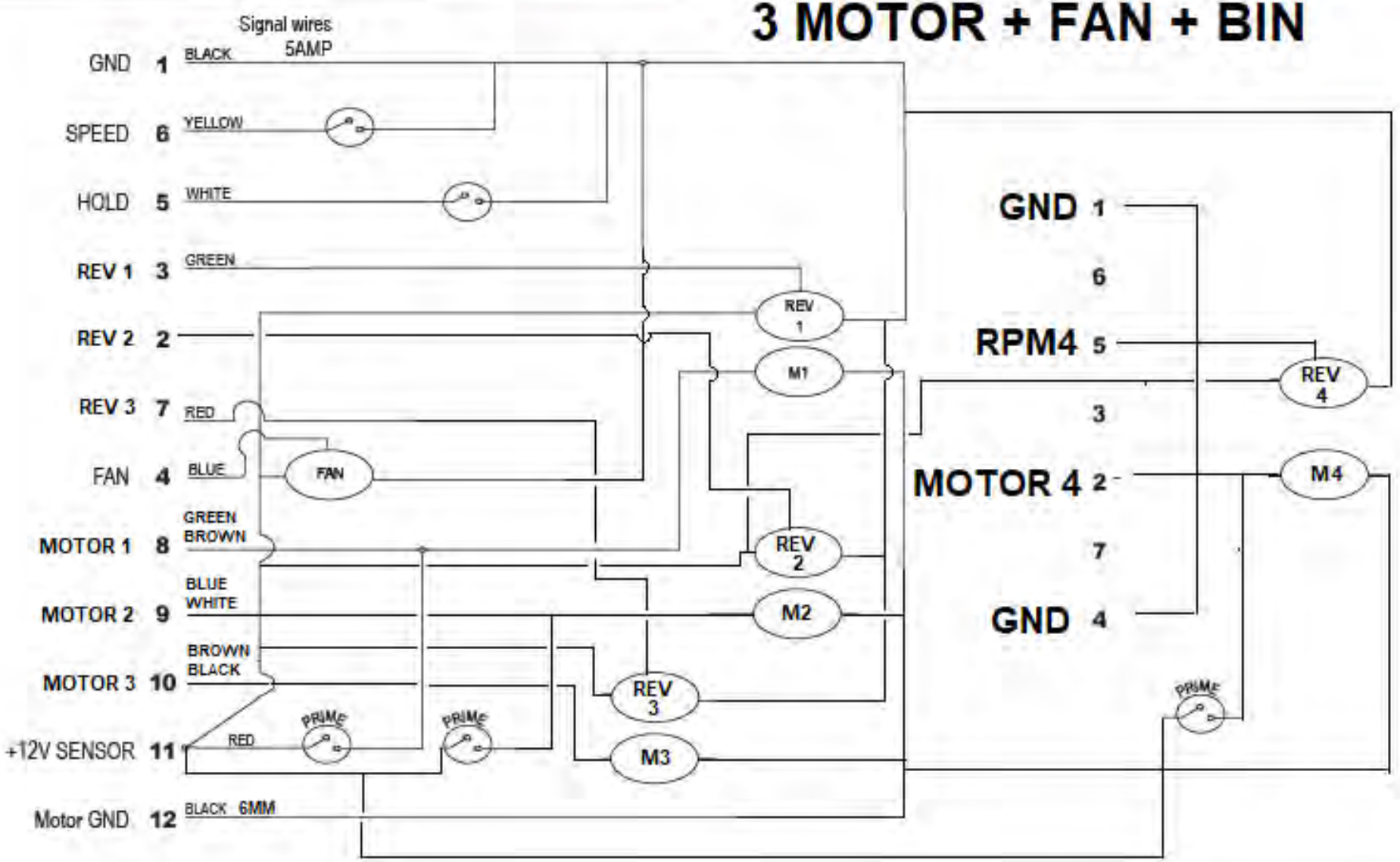
1-	Ground	Black	Ground signal to all sensors
6-	Speed	Yellow	Speed pulse
5-	Hold	White	Hold signal
3-	RPM 1	Green	Motor 1 rpm pulse
2-	RPM 2	Brown	Motor 2 rpm pulse
7-	RPM3	Red	Motor 3 rpm pulse
4-	Fan	Blue	Fan rpm Pulse (optional)
8-	Drive 1	Brown Green	PWM motor 1 power
9-	Drive 2	White Blue	PWM motor 2 power
10-	Drive 3	Black Yellow	PWM motor 3 power
11-	Power	Brown Red	Power for sensors, prime motors
12-	Ground	Black	Motor Ground 8mm

7 Pin Connector

1-	Ground	Black	Motor ground
6-			
5-	RPM4	White	Motor 4 rpm pulse
3-			
2-	Drive 4	Yellow Green Brown	PWM motor 4 power
7-	Ground	Black	Motor Ground

FIELD MATE®
PRECISION

3 MOTOR + FAN + BIN

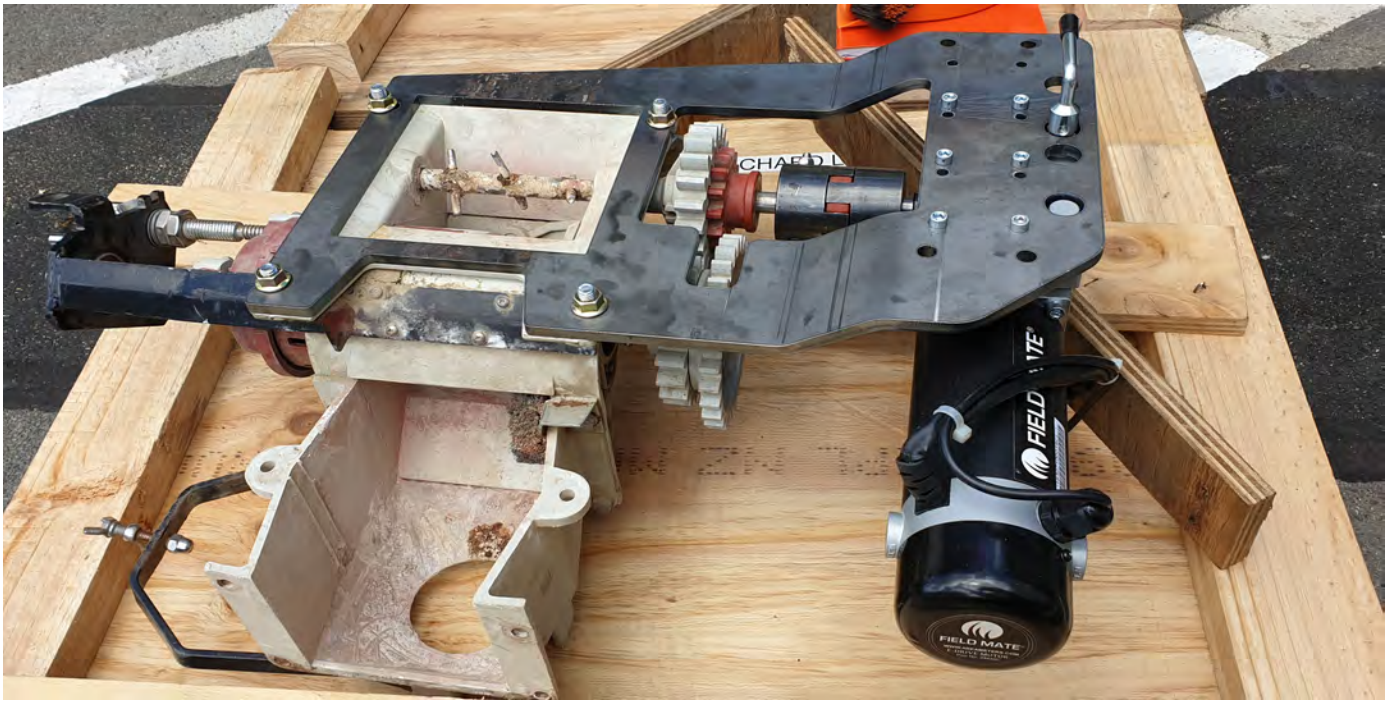


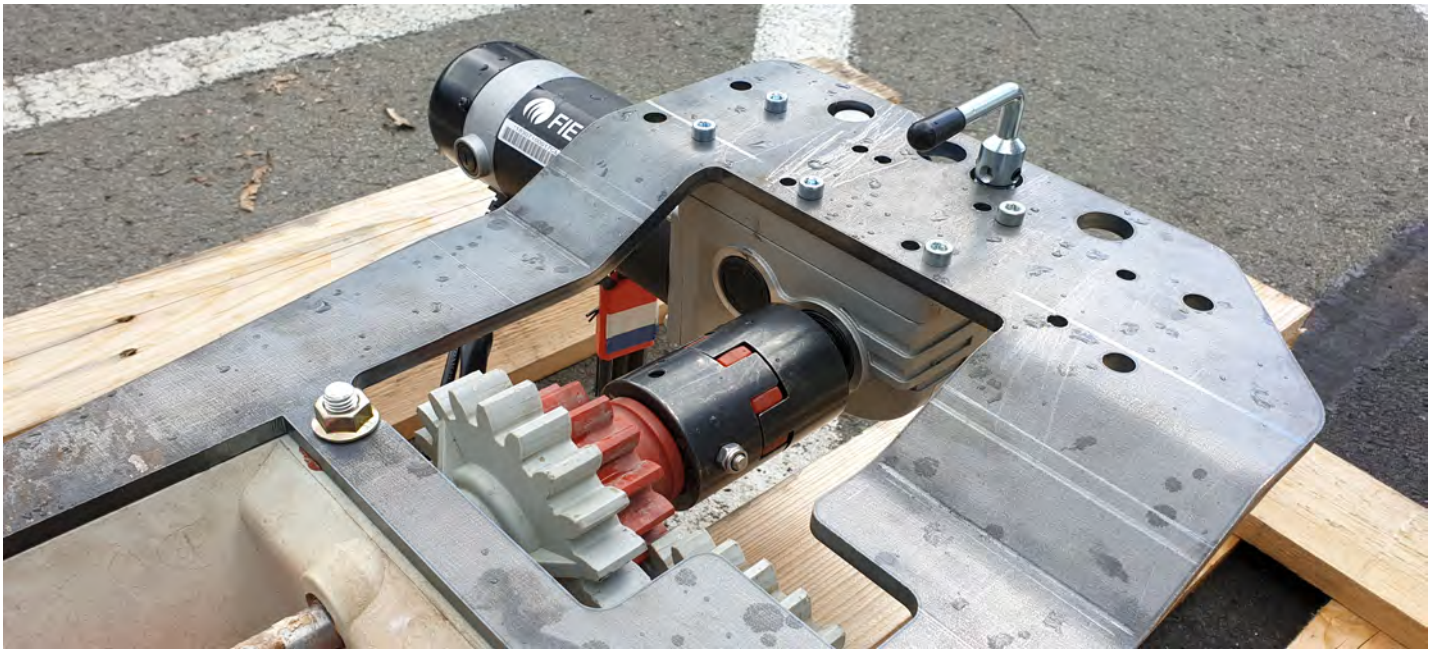
Accord Metering unit Adaptor Plate

The FieldMate to Accord Metering unit plate allow the FieldMate Motor to be connected the accord unit drive shaft.

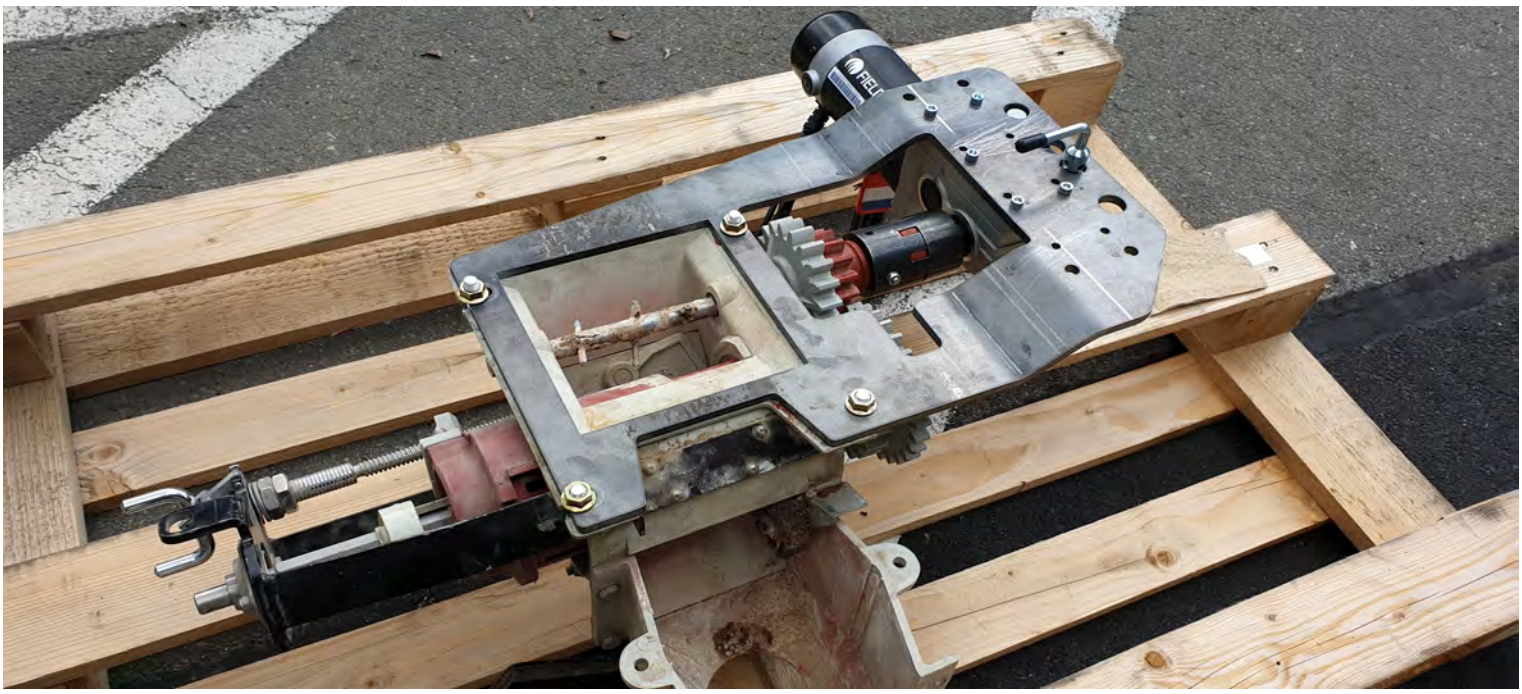
The FieldMate Motor adaptor kit comes with a motor shaft coupling and an adaptor plate.

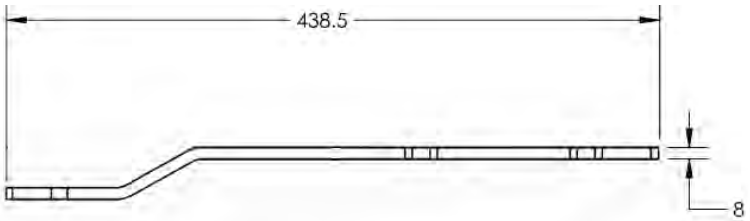
Important Note: Either a "left" or "right" shaft motor can be fitted to this adaptor to suit your seed drill setup.



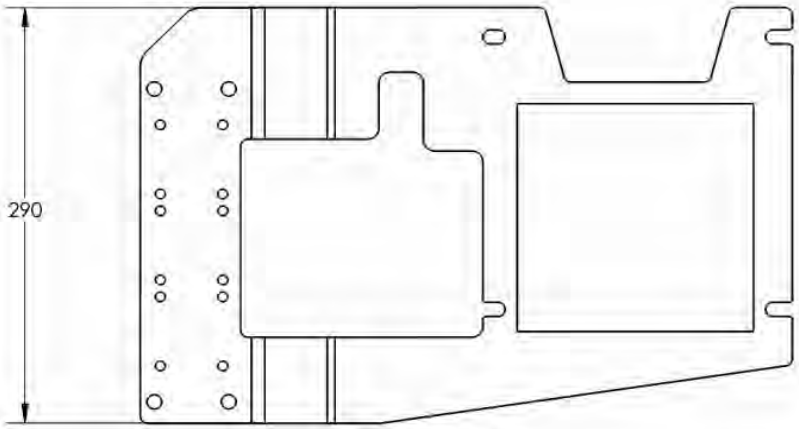


More Adaptor place pics.

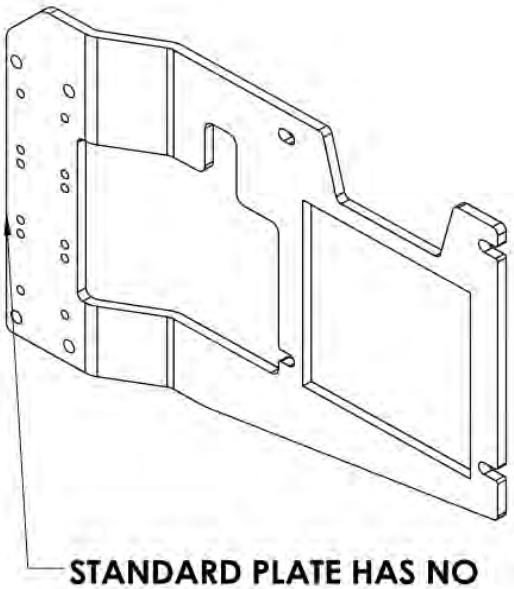




SCALE 1 : 4

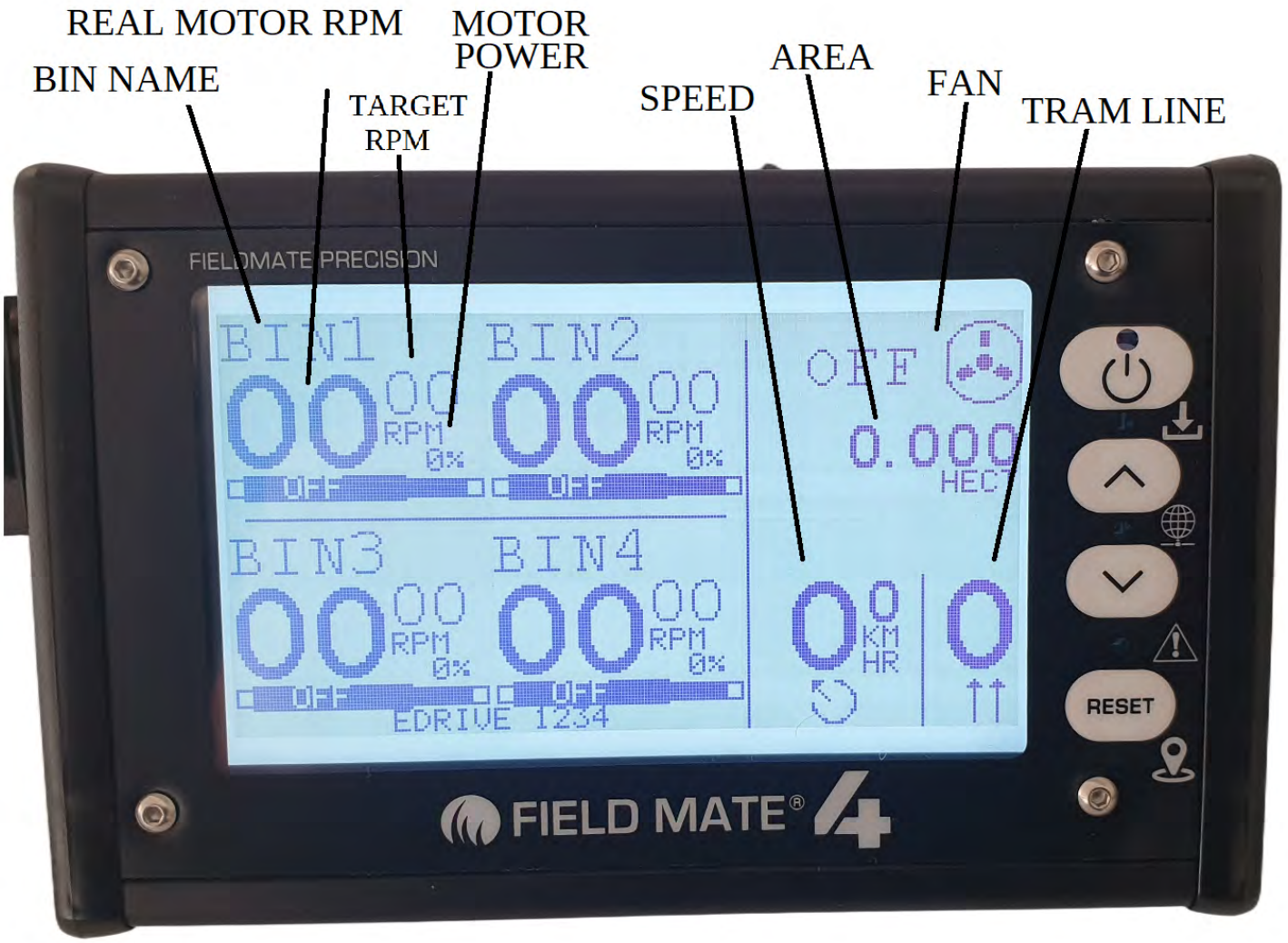


FRONT VIEW
SCALE 1 : 4



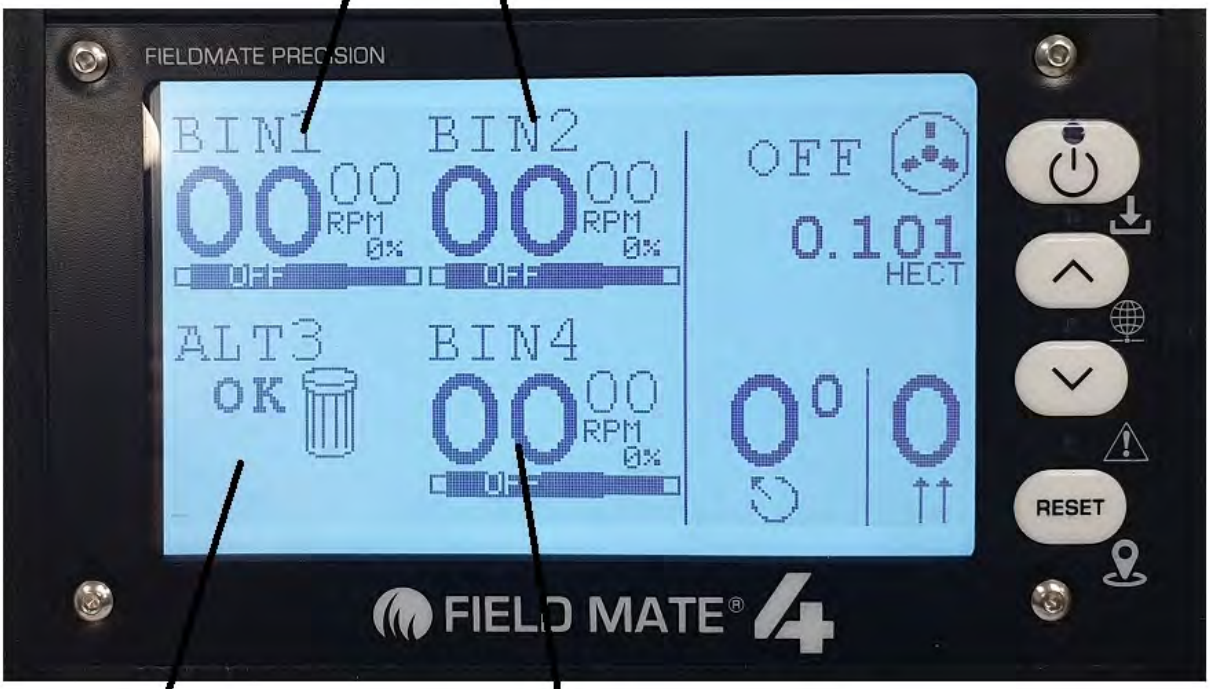
STANDARD PLATE HAS NO LEVER HOLES

Main Screen


REAL MOTOR RPM
MOTOR POWER
BIN NAME
TARGET RPM
SPEED
AREA
FAN
TRAM LINE
FIELDMATE PRECISION
BIN1
BIN2
BIN3
BIN4
RPM
0%
OFF
OFF
0.000
HEC
KM HR
EDRIVE 1234
RESET
FIELD MATE 4

Main Screen
ALT

BIN 1 AND BIN2 ARE ONLY FOR MOTOR DRIVE

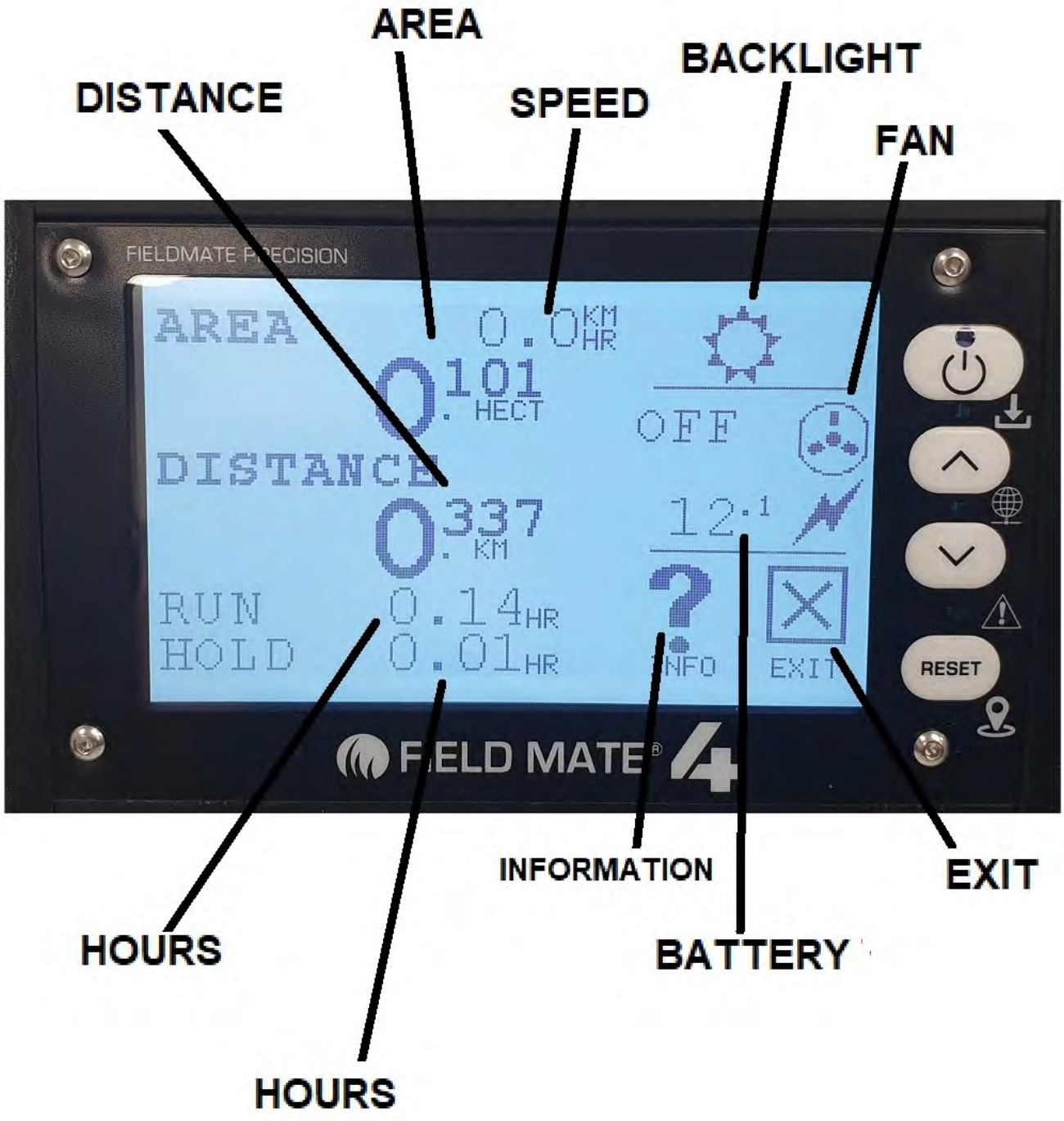


BIN 3
EDRIVE MOTOR

BIN 4
EDRIVE MOTOR

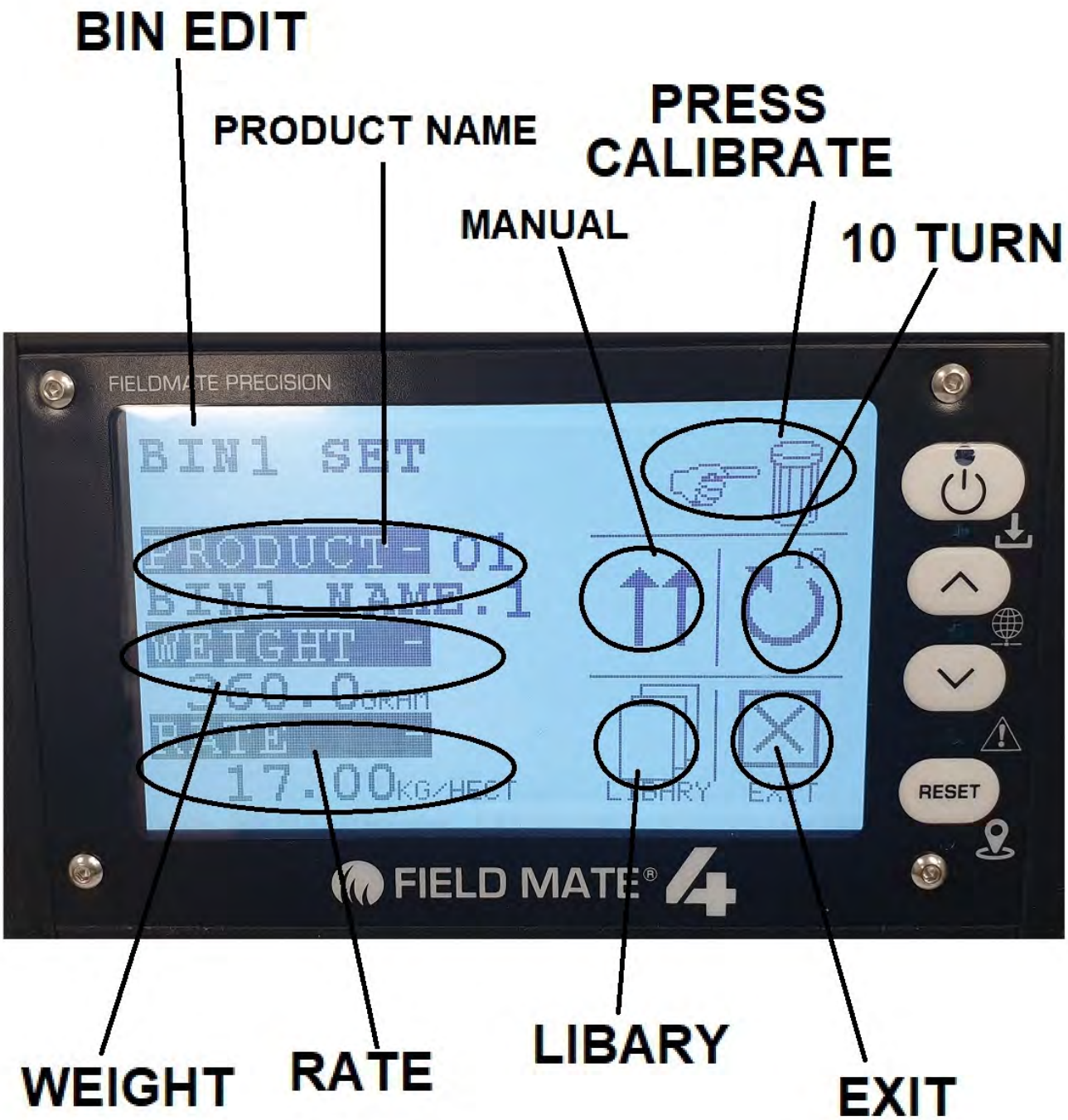
SET TO ALTERNATIVE
- LOW BIN SENSOR
- PWM FAN DRIVE
- AUTO GREASER

Main Screen 2

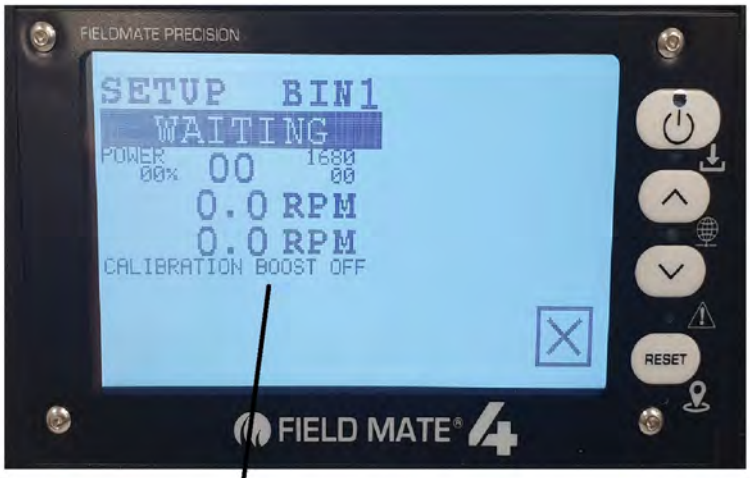


BIN SCREEN
1 - 2 - 3 - 4

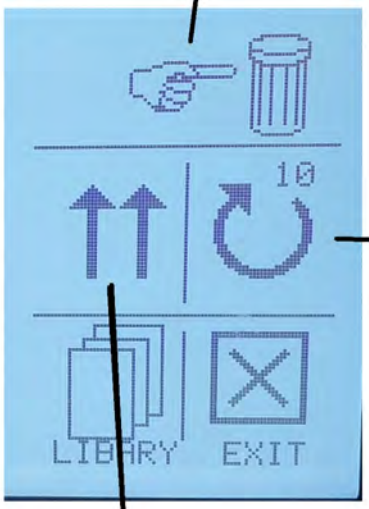
CALIBRATE SCREEN
BIN 1 - 2 - 3 - 4



CALIBRATE SCREENS



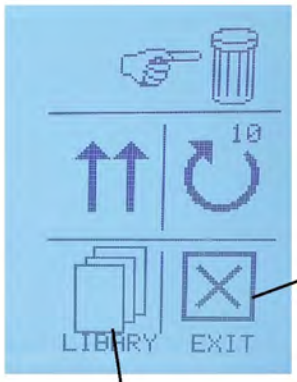
CALBRATE SCREEN WHEN THE BIN SWITCH IS PRESSED AT THE DRILL.



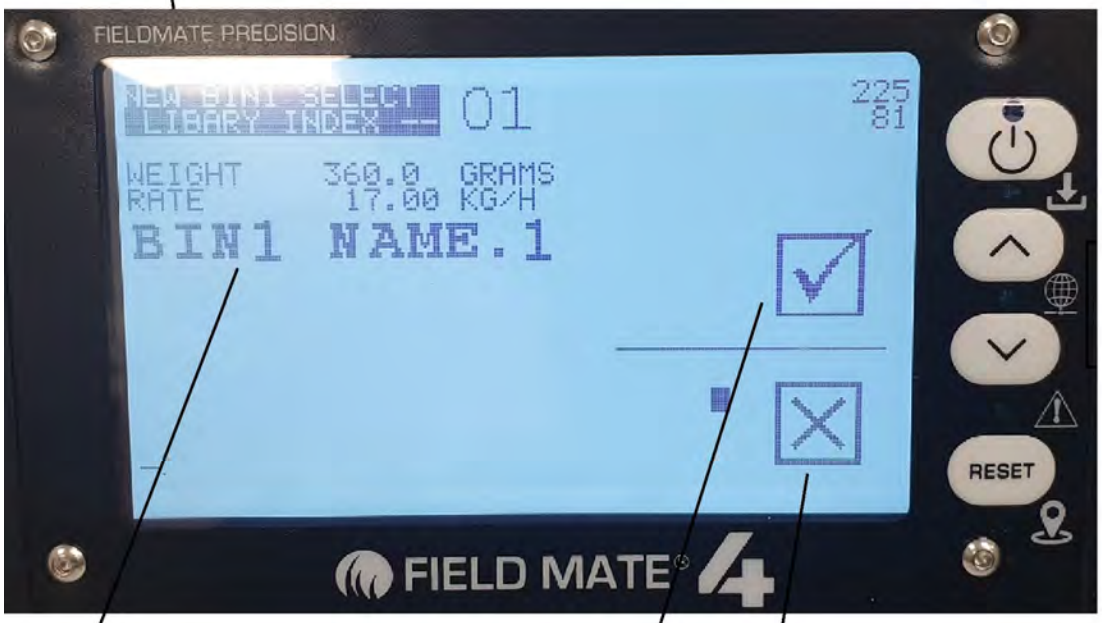
SCREEN FOR CALIBRATING THE BIN FROM THE MONITOR. THE BIN DRIVE SHAFT TURNS 10 TIMES.

CONTINOUS MODE. THIS ALLOWS YOU TO CONTROL THE MOTOR SPEED DIRECTLY FROM THE MONITOR. USE THE ARROW BUTTONS TO INC/DEC MOTOR SEED. USEFULL TO EMPTY THE BIN OR TEST THE MOTOR.

LIBRARY SCREENS
BINS 1 - 2 - 3 - 4



EXIT.
PRESS GOT MAIN SCREEN



PRODUCT # 1-20
- PRODUCT NAME
- CAL. WEIGHT
- DRILLING RATE

EXIT
NO PRODUCT
SELECTED

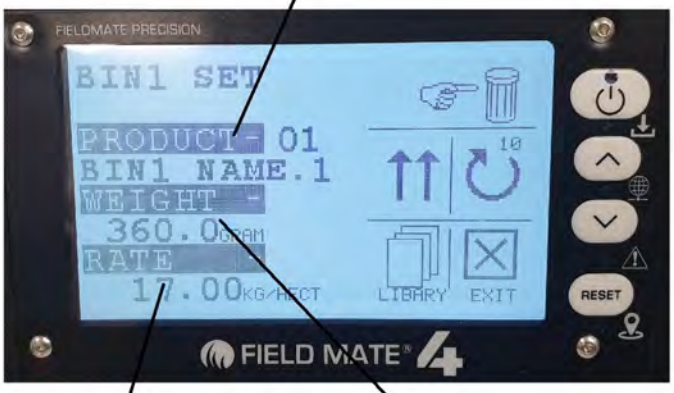
PRESS ARROWS TO
MOVE THROUGH
THE 20 PRODUCTS.

EACH BIN HAS IT'S
OWN 20 PRODUCTS.

PRESS "TICK" TO SELECT
THE PRODUCT DISPLAYED.

EDIT PRODUCT INFO
BINS 1 - 2 - 3 - 4

PRESS TO EDIT
PRODUCT NAME



*QUICK PRESS
POWER SWITCH TO EXIT

PRESS TO EDIT RATE
KG/HECT

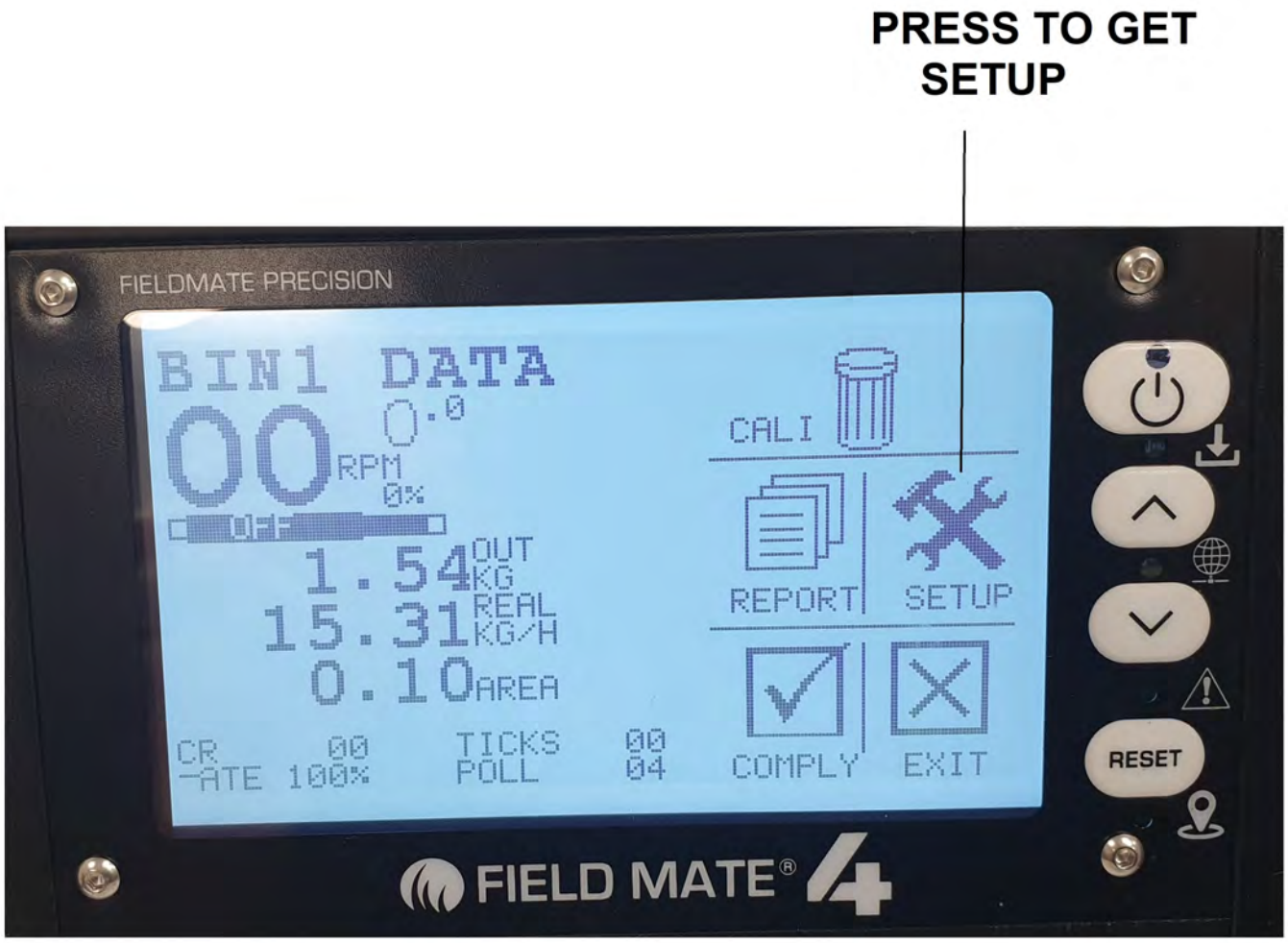
*

PRESS TO EDIT CALIBRATION
WEIGHT GRAMS

ARROW BUTTONS
ADJUST RATE

ARROW BUTTONS
ADJUST WEIGHT

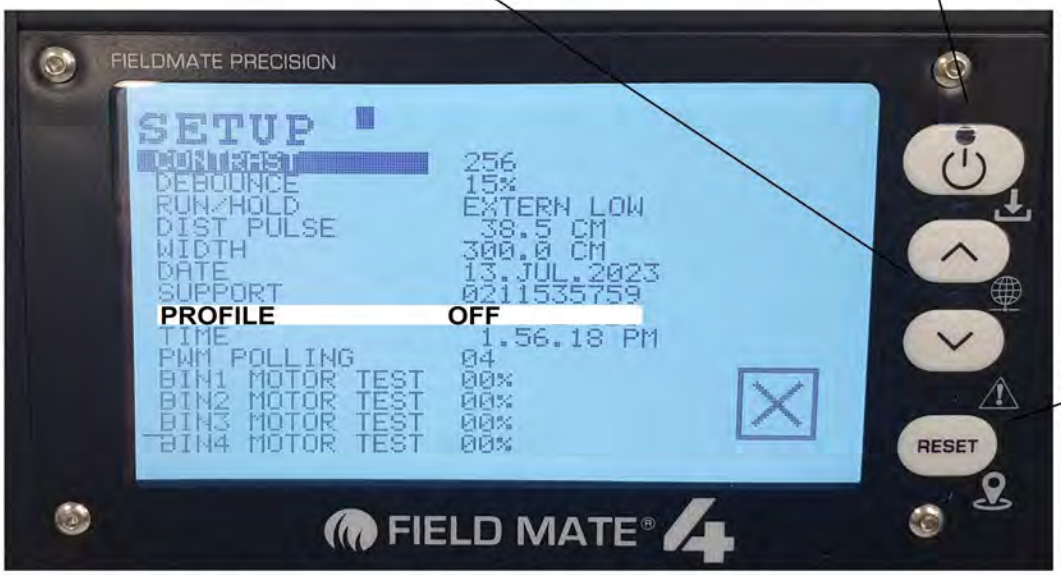
SETUP SCREEN



SETUP SCREEN 1

- USE ARROW TO HIGH LIGHT.
- HOLD ARROW TO SELECT HIGH LIGHTED "SETUP"

QUICK PRESS TO EXIT



EXIT

C0NTRAST - ADJUST LCD DARKNESS
DEBOUNCE - SET PULSE LOCKOUT TIME FOR REED SENSE
RUN/HOLD - HOLD SENSOR TYPE
* EXTERN LOW. HOLD WHEN CIRCUIT CLOSED
* EXTERN HIGH. HOLD WHEN CIRCUIT OPEN
* SPEEDO. HOLD WHEN SPEED = 0
* STITCH LOW . USED WITH INSTANT RATE REDUCE UNIT

DIST PULSE - DISTANCE TRAVELED FOR EACH WHEEL PULSE EVENT
WIDTH - WIDTH OF DRILL
DATE - DATE USED FOR REPORT STARTING
SUPPORT - SUPPORT PHONE NUMBER
PROFILE - CONTACT US MORE INFO
TIME - TIME USED FOR REPORT STARTING
PWM POLL - MOTOR UPDATE RATE. DEFAULT VALUE = 4
BIN1 TEST - TEST BIN1. USED TO TEST THE BIN 1 MOTOR
BIN2 TEST - TEST BIN2. USED TO TEST THE BIN 2 MOTOR
BIN3 TEST - TEST BIN3. USED TO TEST THE BIN 3 MOTOR
BIN4 TEST - TEST BIN4. USED TO TEST THE BIN 4 MOTOR

SETUP SCREEN 2

- USE ARROW TO HIGH LIGHT.
- HOLD ARROW TO SELECT HIGH LIGHTED "SETUP"

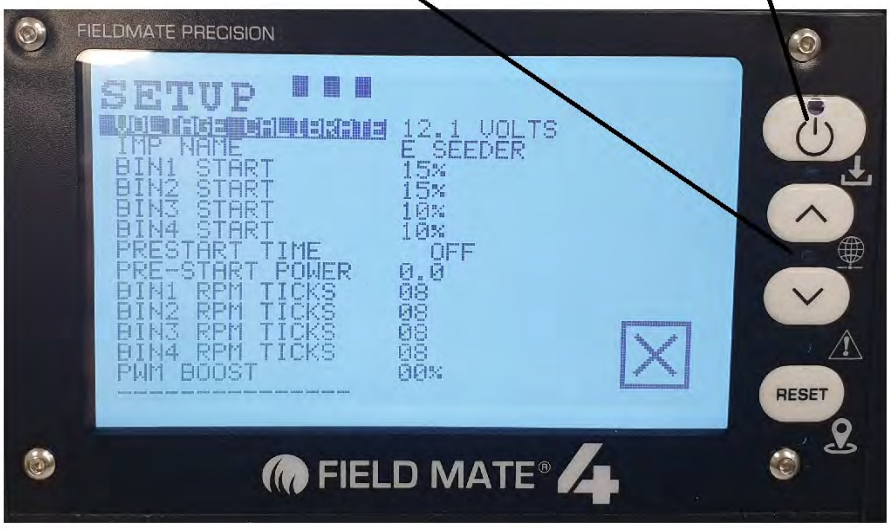
QUICK PRESS TO EXIT

HOLD ALARM - BUZZER SOUNDS WHEN MOVING IN HOLD MODE
BIN 1 RATIO - BIN1 MOTOR GEAR REDUCTION RATIO.
BIN 2 RATIO - BIN2 MOTOR GEAR REDUCTION RATIO.
BIN 3 RATIO - BIN3 MOTOR GEAR REDUCTION RATIO.
BIN 4 RATIO - BIN4 MOTOR GEAR REDUCTION RATIO.
LOW BIN - ALT FUNCTION FOR BIN3 OR BIN4 CHANNEL
FAN ALARM - IF FAN SPEED IS BELOW THIS MAKES ALARM.
ALARM BUZZ - ENABLE / DISABLE THE ALARM SOUND
SPIN.LUBE.FAN - ENABLE POWER OUTPUT FOR BIN 3 OR 4
.SPINNER CONTROL
.AUTO LUBE CONTROL
.ELECTRIC FAN CONTROL
SPEED PULSE - SET FOR REED SENSOR OR RADAR PULSE TYPES
SPIN.LUBE.FAN - MAX POWER SETTING FOR THE SPIN.LUBE.FAN SELECTED
FAN PULSE - NUMBER OF PULSES PER FAN SHAFT REV
AUTO SAVE - TIME IN SECONDS THAT THE SYSTEM WILL AUTO BACKUP
MODEL - SYSTEM IS SET UP TYPE

SETUP SCREEN 3

- USE ARROW TO HIGH LIGHT.
- HOLD ARROW TO SELECT HIGH LIGHTED "SETUP"

QUICK PRESS TO EXIT

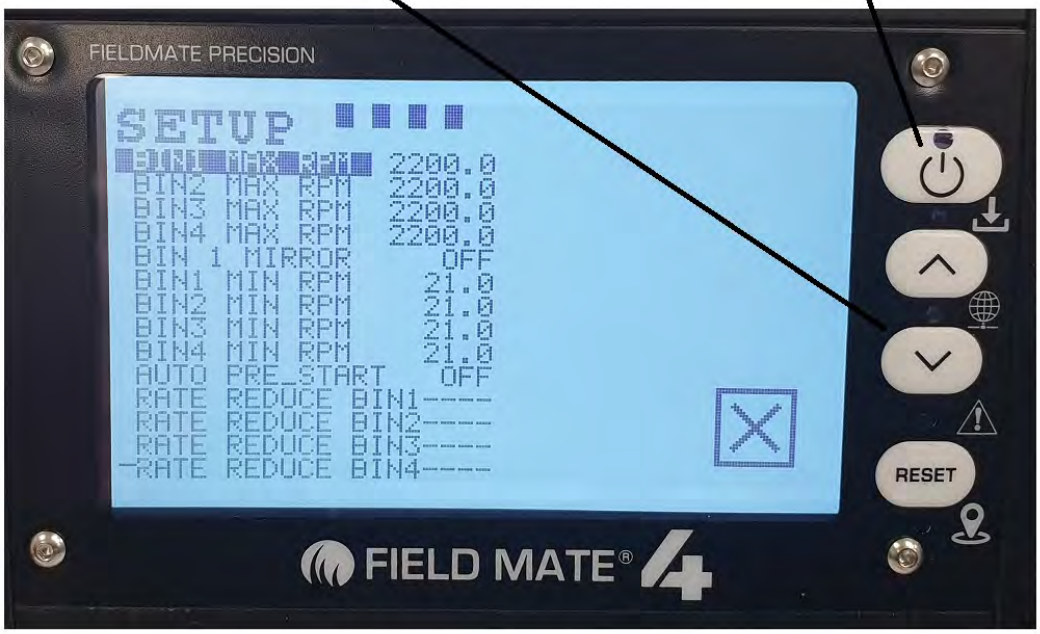


VOLTAGE CAL. - SETS CORRECT SUPPLY VOLT READ
IMP NAME - IMPLEMENT NAME FOR REPORT
BIN 1 START - START POWER FOR BIN 1
BIN 2 START - START POWER FOR BIN 2
BIN 3 START - START POWER FOR BIN 3
BIN 4 START - START POWER FOR BIN 4
PRESTART TIME- TIME THE PRESTART POWER RUNS FOR
PRESTART PWR - MOTOR DRIVE POWER IN PRESTART MODE
BIN 1 RPM TICKS- RPM PULSE COUNT BIN 1 MOTOR
BIN 2 RPM TICKS- RPM PULSE COUNT BIN 2 MOTOR
BIN 3 RPM TICKS- RPM PULSE COUNT BIN 3 MOTOR
BIN 4 RPM TICKS- RPM PULSE COUNT BIN 4 MOTOR
PWM BOOST - EXTRA MOTOR PWM BOOST. DEFAULT 0%
---------- - SPARE

SETUP SCREEN 4

- USE ARROW TO HIGH LIGHT.
- HOLD ARROW TO SELECT HIGH LIGHTED "SETUP"

QUICK PRESS TO EXIT

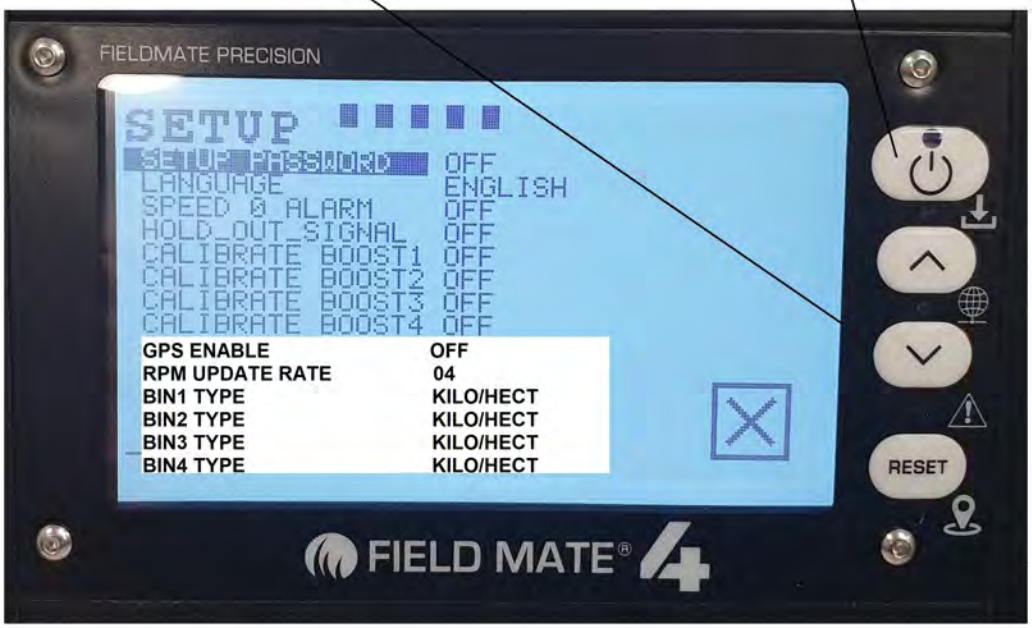


BIN 1 MAX RPM - MAX RPM BIN 1 MOTOR
BIN 2 MAX RPM - MAX RPM BIN 2 MOTOR
BIN 3 MAX RPM - MAX RPM BIN 3 MOTOR
BIN 4 MAX RPM - MAX RPM BIN 4 MOTOR
BIN 1 MIRROR - ALL BINS MATCH BIN 1
BIN 1 MIN RPM - MIN RPM BIN 1 MOTOR
BIN 2 MIN RPM - MIN RPM BIN 2 MOTOR
BIN 3 MIN RPM - MIN RPM BIN 3 MOTOR
BIN 4 MIN RPM - MIN RPM BIN 4 MOTOR
AUTO PRESTART - ENABLE AUTO RESTART
RATE REDUCE BIN1 - INSTANT REDUCTION BIN 1
RATE REDUCE BIN2 - INSTANT REDUCTION BIN 2
RATE REDUCE BIN3 - INSTANT REDUCTION BIN 3
RATE REDUCE BIN4 - INSTANT REDUCTION BIN 4

SETUP SCREEN 5

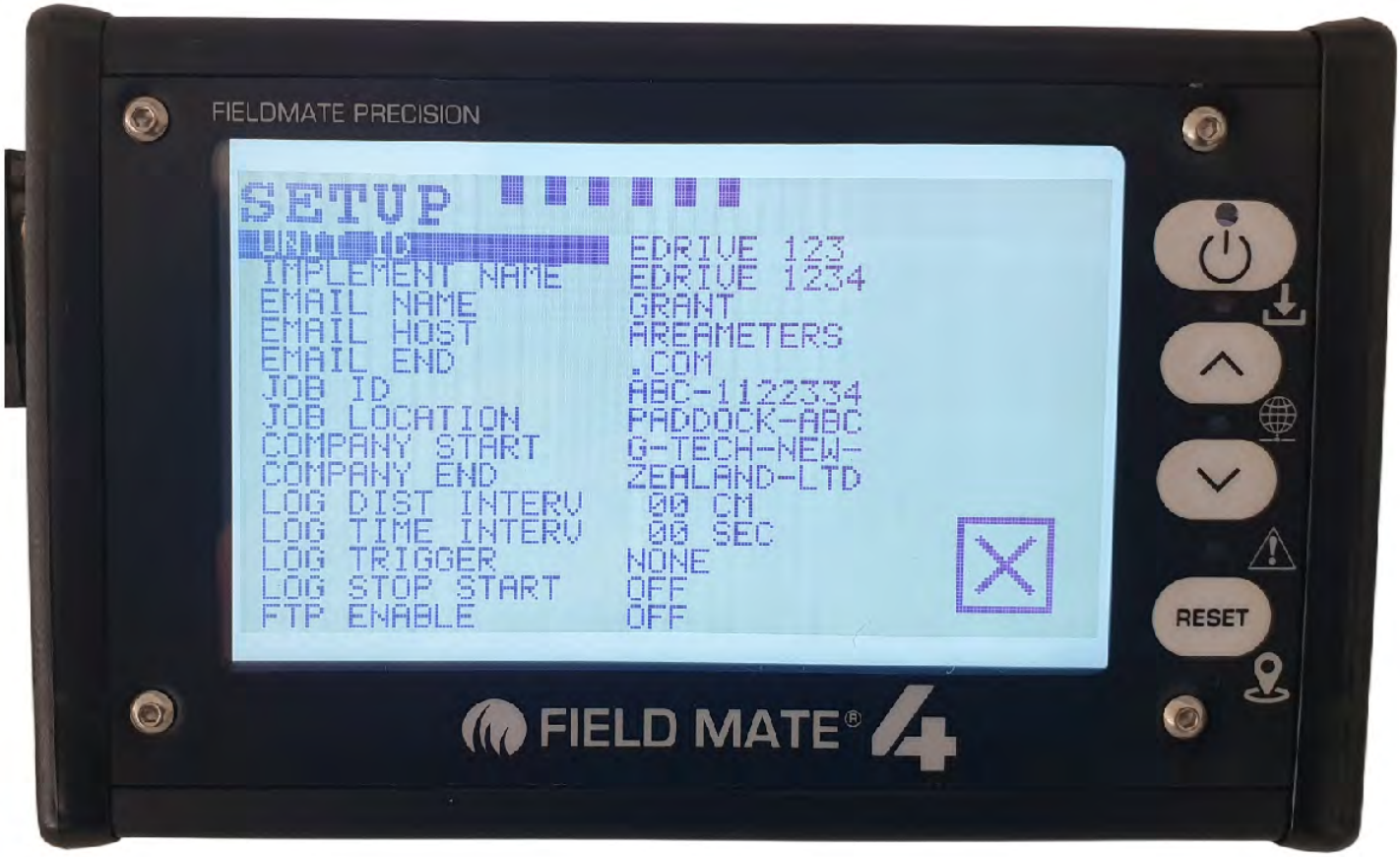
- USE ARROW TO HIGH LIGHT.
- HOLD ARROW TO SELECT HIGH LIGHTED "SETUP"

QUICK PRESS TO EXIT



SETUP PASSWORD - ENABLES SETUP MENU ENTRY VIA A PASSWORD
LANGUAGE - LANUAGE SELECT . DEFAULT ENGLISH
SPEED 0 ALARM - ALARM SOUNDS WHEN SPEED IS ZERO
HOLD OUT SIGNAL - USE TO ENABLE MAP DRAWING ON EXTERNAL GPS
CAL BOOST 1 - BIN 1 EXTRA DRIVE FOR CALIBRATION. DEFAULT OFF
CAL BOOST 2 - BIN 2 EXTRA DRIVE FOR CALIBRATION. DEFAULT OFF
CAL BOOST 3 - BIN 3 EXTRA DRIVE FOR CALIBRATION. DEFAULT OFF
CAL BOOST 4 - BIN 4 EXTRA DRIVE FOR CALIBRATION. DEFAULT OFF
GPS ENABLE - OFF (CONTACT US FOR MORE DETAILS)
RPM UPDATE RATE - RATE OF MOTOR PWM UPDATE
BIN1 TYPE - KILO / HECT
BIN2 TYPE - KILO / HECT
BIN3 TYPE - KILO / HECT
BIN4 TYPE - KILO / HECT

SETUP SCREEN 6



SETUP 6
JOB CONFIG SETTINGS
-CONTACT US FOR MORE INFO-

-

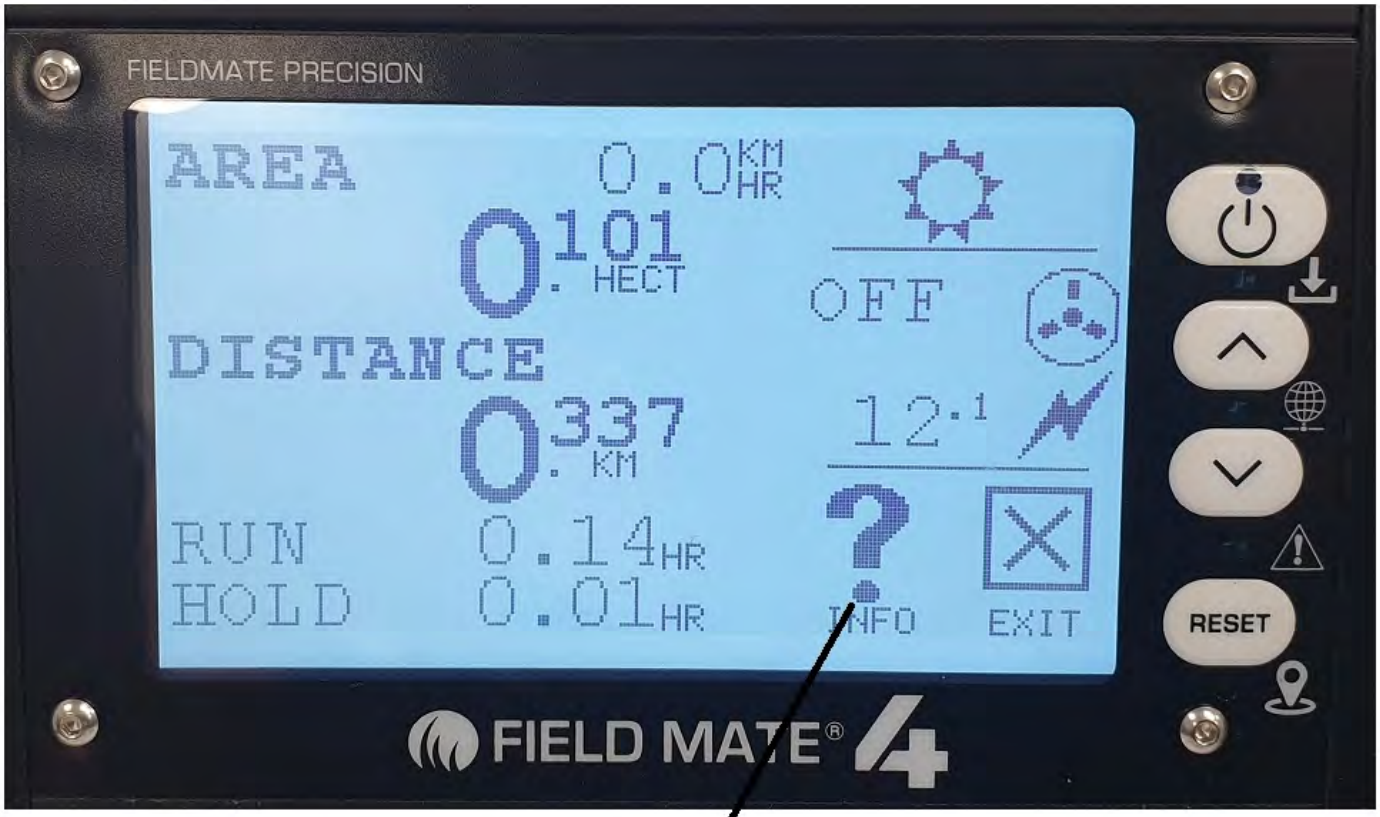
SETUP SCREEN 7

SETUP 7

SETUP SCREENS FOR FERT SPREADER CONTROL

- CONTACT US FOR MORE DETAILS -

INFO
SCREEN ENTRY



PRESS TO ENTER
INFO SCREENS

INFO SCREEN 1

RUN DEBOUNCE - SPEED SENSOR REAL TIME LOCK OUT
SET DEBOUNCE - SPEED SENSOR LOCK OUT TIME
SPEED - GROUND SPEED
WHEEL TURN - SPEED PULSE TICKS
SPEED CAP - TIME CAPTURED TO CALC SPEED
EXT 0 MODE - SPEEDO STATE MACHINE LOCATION
MODEL - SYSTEM MODEL CONFIG
FIRMWARE VERSION
POWERED - TIME THAT THE SYSTEM WAS POWER
RUNNING - TIME THAT THE SYSTEM DRILLING
HECTARES - HECTARES DRILLED
LCD LEVEL - CONTRAST LEVEL
B/LIGHT - SYSTEM VOLTAGE. BACKLIGHT STATE
TEMP - TEMPERATURE INSIDE THE SCREEN.

INFO SCREEN 2

AREA UNIT - UNITS MEASURED TYPE
BATTERY - BATTARY VOLTS REAL AND FILTERED
SER NUM - SERIAL NUMBER
LOW SEED - BIN STATUS. SENSOR CHANNEL AND TYPE
STITCHING - RATE REDUCTION AMOUNT
SYS STATUS - SOFT WARE ERROR MONITORING
SYS STATUS - SOFT WARE ERROR MONITORING
SYS STATUS - SOFT WARE ERROR MONITORING
SYS STATUS - SOFT WARE ERROR MONITORING
SYS STATUS - SOFT WARE ERROR MONITORING
SYS STATUS - SOFT WARE ERROR MONITORING
AUTO SAVE - AUTO SAVE COUNTER
SAVE TICK - NUMBER OF AUTO SAVES

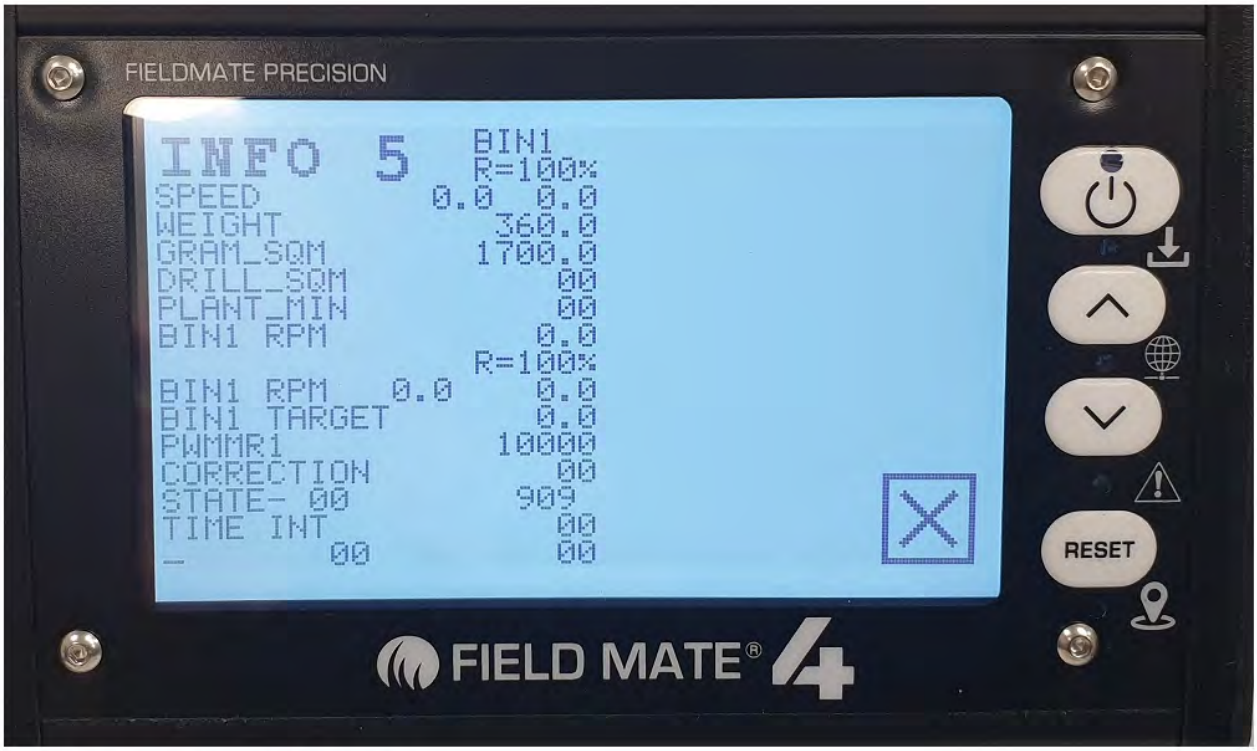
INFO SCREEN 3

RTC 1S INT - 1 SECOND CLOCK COUNT
REG - FOR RTC COUNT
RUN/H STATE - HOLD STATE
R-AREA H - AREA CALC BACK END
R-AREA - AREA CALC
TIME - MACHINE TIME
BUZZER - SYSTEM STATE
AREA JOB - AREA CALC FOR THIS JOB
AREA HELP - AREA CALC FOR THIS JOB HELP
AREA - FINAL AREA NUMBER
T-AREA HELP- TOTAL AREA HELP NUMBER
T-AREA - TOTAL AREA NUMBER

INFO SCREEN 4

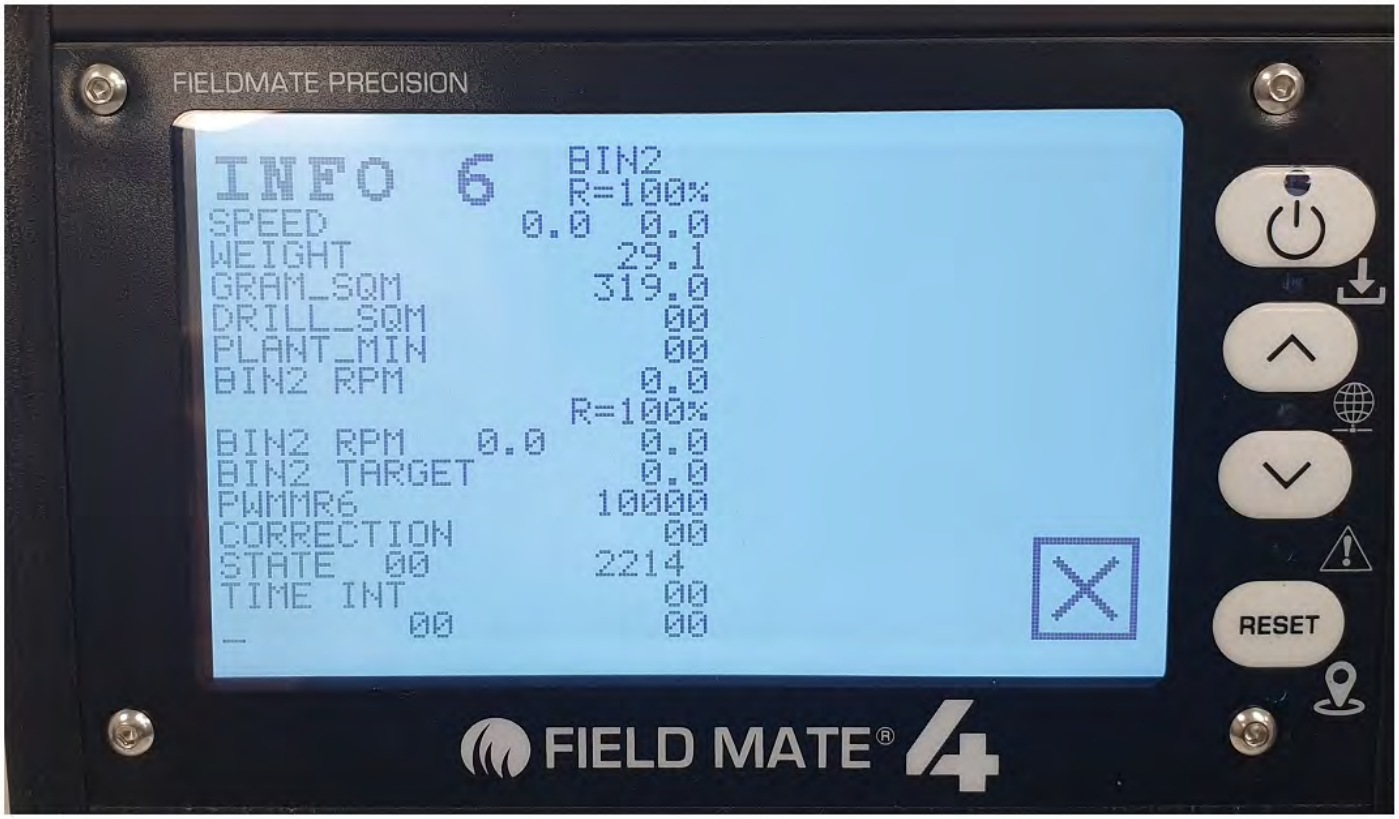
BIN1 TICKS - RPM EVENT COUNTS
BIN1 RPM - RPM BIN 1
BIN2 TICKS - RPM EVENT COUNTS
BIN2 RPM - RPM BIN 2
BIN3 TICKS - RPM EVENT COUNTS
BIN3 RPM - RPM BIN 3
SYSTEM STATES
BIN 1 STATE - STATE ON BIN 1. WATCHES BIN 1 FOR ERRORS
BIN 2 STATE - STATE ON BIN 2. WATCHES BIN 2 FOR ERRORS
BIN 3 STATE - STATE ON BIN 3. WATCHES BIN 3 FOR ERRORS
BIN 4 STATE - STATE ON BIN 4. WATCHES BIN 4 FOR ERRORS
FAN STATE - WATCHES FAN FOR ERROR STATES
VOLTAGE S - WATCHES VOLTAGE FOR ERROR STATES
LOW BIN S - WATCHES LOW BIN FOR ERROR STATES

INFO SCREEN 5



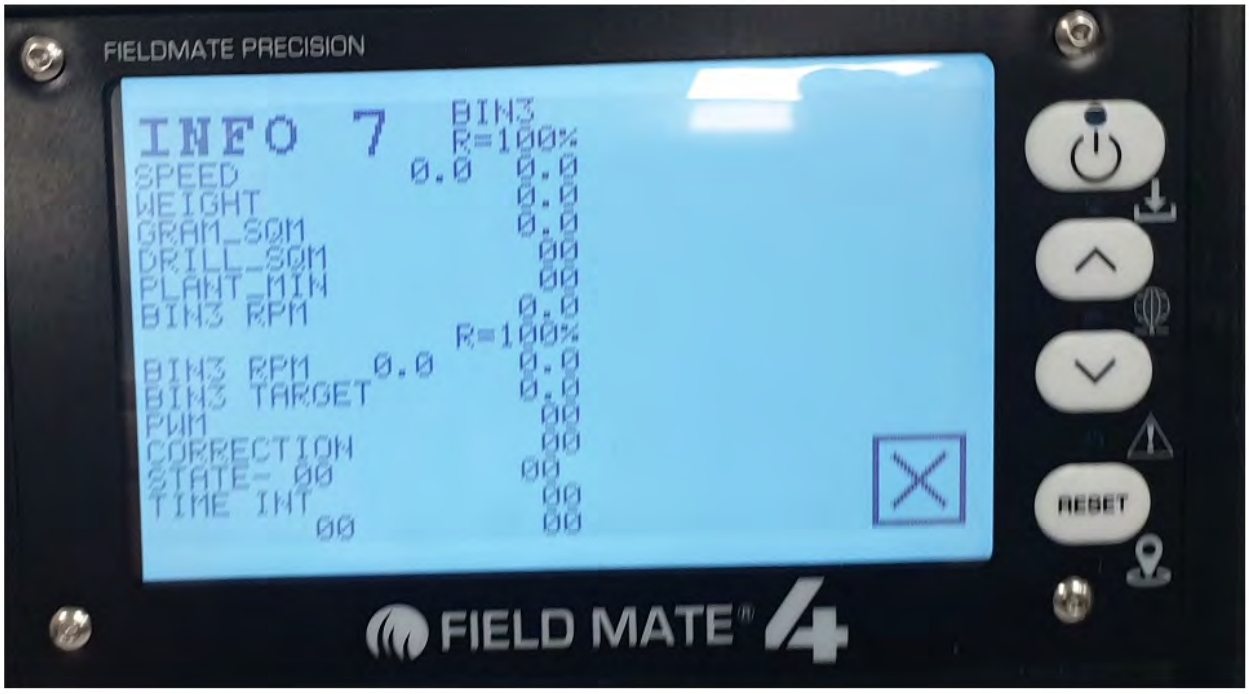
BIN 1 SYSTEM INFO:

INFO SCREEN 6



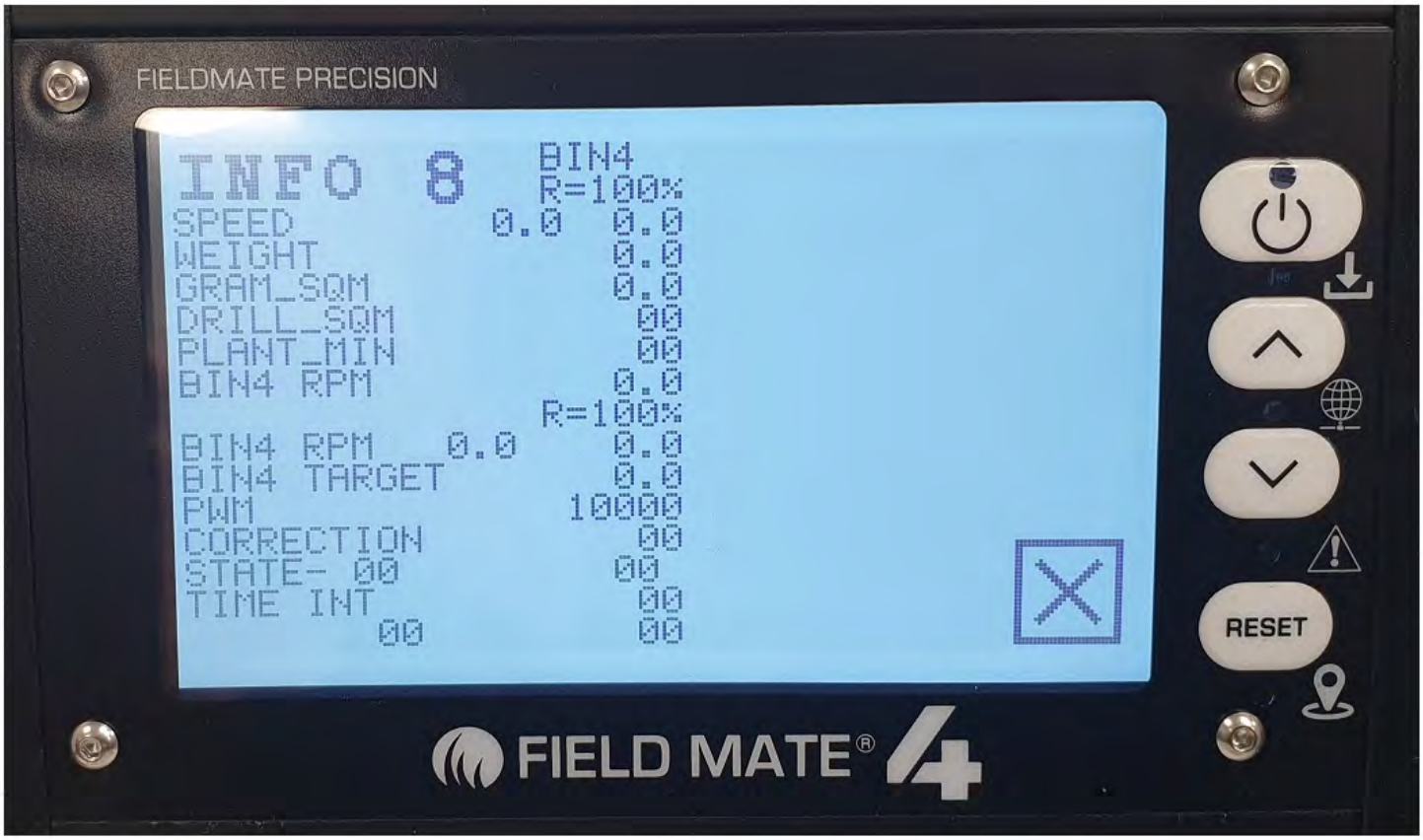
BIN2 SYSTEM INFO:

INFO SCREEN 7



BIN 3 SYSTEM INFO:

INFO SCREEN 8



BIN 4 SYSTEM INFO:

INFO SCREEN 9

RUN/HOLD - HOLD CONFIG
HOLD STATE - HOLD STATE
STITCH ADC - ANALOGUE LEVEL OF THE STITCH CONTROL INPUT
RATE REDUCTION
WDT - SOFTWARE MONITOR TIMERS
FAN - SPEED OF FAN
WEIGHT - WEIGHT
AREA - AREA
RATE - RATE
RATE - RATE
X - TOUCH SCREEN LOCATION
X1 - TOUCH SCREEN LOCATION ASSIST

INFO SCREEN 10

INFO #10
- HOLD STATE
- "
- STITCH CONTROL (RATE REDUCRER) STATE
- RATE REDUCTION AMOUNT
- WATCH DOG THREAD WATCH
- FAN SPEED
- RATE CALCS
- WEIGHT RELEASED
- AREA
- SEED RATE
- "
- TOUCH SCREEN LOCATION X
- TOUCH SCREEN LOCATION X1
- MAPPING SIGNAL

INFO SCREEN 11

INFO #12
- GPS SCREEN

INFO SCREEN 12

INFO #12
- SPREADER SCREEN

- CONTACT USE FOR MORE INFO -

INFO SCREEN 13

INFO 13
SPREADER RATE CALC SCREEN
- CONTACT US FOR MORE INFO -

INFO SCREEN 14

INFO #14
- SPREADER CONTROL INFO

- FOR MORE INFO CONTACT US -

INFO SCREEN 15

INFO #15
- SPREADER CONTROL INFO

- FOR MORE INFO CONTACT US -

SETUP BIN

www.areameters.com

1. PRESS BIN ON THE MAIN SCREEN TO CALIBRATE.

2. AT THE BIN SCREEN. PRESS THE CALIBRATE BIN ICON.

3. PRESS THE HAND + BIN ICON.

4 NOW, PRESS THE DRILL SWITCH AND CATCH THE BIN MATERIAL.

WEIGH THE MATERIAL FROM THE BIN.

THIS IS THE CALIBRATION WEIGHT.

5. PRESS EXIT. NOW WE ARE IN THE SET BIN SCREEN.

6. PRESS THE WEIGHT ICON ON THE SCREEN. NOW ENTER THE WEIGHT. PRESS EXIT WHEN COMPLETE.

7. PRESS THE RATE ICON ON THE SCREEN. NOW ENTER THE RATE. PRESS EXIT WHEN COMPLETE

8. PRESS EXIT. NOW AT THE MAIN SCREEN. SETUP COMPLETE.

Install Kit

Battery Power Cable.

Connect to battery supply capable of supplying 30amp of Current

FieldMate Motor Driver.

Mount in the tractor cab. This unit will get warm when driving the motors, so allow ventalation.

FieldMate Computer.

Available with a velcro mount or optional Window Mount. Mount in the Tractor Cab.

Motor and Sensor Cable.

Cable to power motors and sensors and gather drill status.

Installation Instructions.

1: Connect the Power.

Locate a circuit on the tractor that can deliver at least 30amp DC power at 12 or 24 volts. When connecting to this power suuply please ensure that it is fused witha 30 amp fuse.

Power cable is connected to a Fused!! 30 amp supply. Very important to fuse the power cable to the system. 30 amp fuse is recommended.

The earth cable should be a solid connection capable of passing up to 30 amps.

2: Mount the Computer.

Locate the computer where it is easy to see and use by the driver. With the Computer in a safe visual location please attach the DB15 cable to it and run it to the FIELD MATE MOTOR DRIVER.

Mount computer in easy to see and use location. A Velcro mount is the standard mounting method. Optional mounting method is a high quality window mount.

3: Mount the MOTOR DRIVER.

Locate the motor driver box is a place that will allow the device to cool as it will get a little warm when running the motors. Connect the power to this box and the DB15 cable from the computer.

The motor drive unit is mounted in this cab behind the drivers seat. Mounted here with a velcro mount to the inspection window behind the drivers seat. This unit may get warm so allow air flow to prevent unit from over heating.

The motor drive unit has a cable that connects with the other cable from the drill . Ensure these two cables can connected ok from with in the tractor cab.

4: Wire the Drill. - Run the Power cable to the Drill.

Ensure the power cable can safely connect to the power cable plug of the power box mounted in the tractor. And then with a little cable still in the cab run the rest of the cable down to the main body of the drill.

The cable from the drill plugs into the back of the tactor. This cable should connect inside the tractor cab.

5: Wire the Motor.

If a single motor system wire one motor. If a double motor system connect two motors.

Note: You will have to make a bracket up to mount the motor.

Note: You will have to make a small shaft to go from the motor output to the colter shaft end of the drill. Or you can run a chain and sprocket from the end of the motor.

Note: The motor has a min RPM of 1 and a max RPM of 100, bear this in mind if using a geared sproket system.

Note: The motor is able to rotate in any direction. Please check the motor direction is correct for your colter setup. If the direction of rotation of the motor is not correct reverse the power wires controlling the motor.

Special note: To simply and slowly make the motors rotate with out moving the drill follow these instructions:

- SETUP Screen

- Go to the 6th setup screen

- Enter into option "SEED STOPPED" to make seed motor slowly start

or

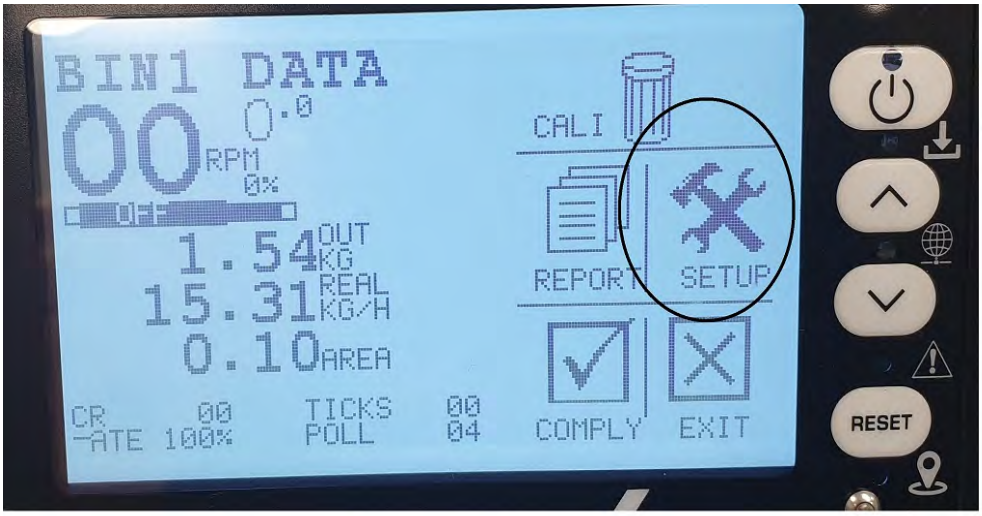
- Enter into option "FERT STOPPED" to make fert motor slowly start

NOTE!!! When finished in these screen return the value to 10000. As this will ensure the motors are off when not being used.

With the motor mechanically mounted to the colter shaft. (note you will have to build a suitable bracket and shaft connector for your drill. However do contact us as we may have a kit for your drill all ready to go!!)
Wire the power wires to the motor and the sensor wiring to the RPM sensor of the motor.

Note: Once the motor have the heavy power wires connected. Use the below procedure to work out if the motor rotational direction is the correct one for your colter. If the motor is going backwards, simply reverse the power wire to the motor. The below procedure allows you to slowly rotate the motor, checking for motor jams in you mechanical work and direction of colter shaft rotation.

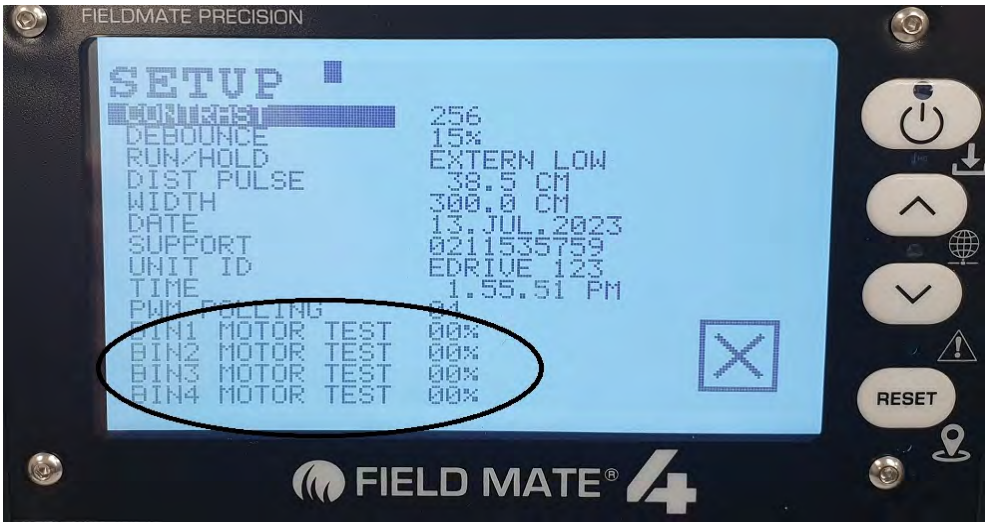
1: Goto the Setup Screen in main menu.



2: 7th Set up screen. See:

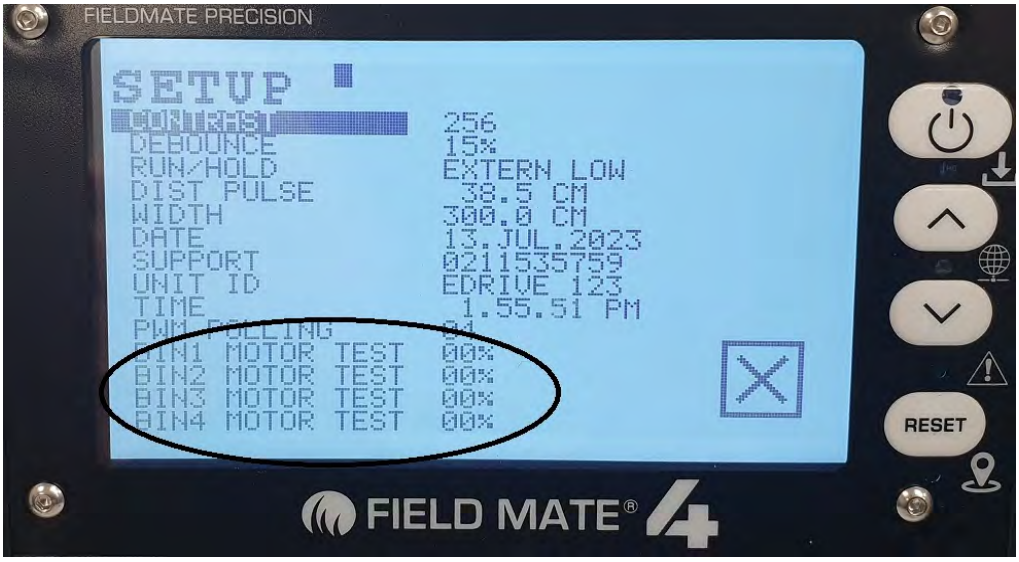
BIN1 MOTOR TEST
BIN2 MOTOR TEST
BIN3 MOTOR TEST
BIN4 MOTOR TEST

When highlighted hold the arrow key to select.



3: Adjusting the BIN 1-2-3-4 Motor speed by changing the PWM (pulse width modulation) setup.
Decrease the number to slowly start the motor. The motor will start to hum when this number is at 10%,

- If no hum check wiring.
- If at 70% there is no rotation but have hum, check for jam in the motor / colter shaft
- When the rotation is correct, return this number to 0% and exit the screen using a quick press of the power button.



Wiring the motor RPM sensor.

The sensor has 3 wires connects as follows.

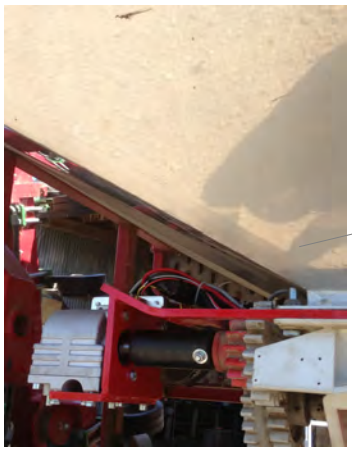
1- Sensor BROWN wire to Battery +
2- Sensor BLUE wire to Battery -
3- Sensor BLACK wire to either the Seed RPM pulse wire or the Fert RPM pulse wire. Depending on which motor is used.

Mounting the motor.

We have a DXF file of the motor mount holes. Call us and we can send this file to you to as assist in any CAD work you may be doing.

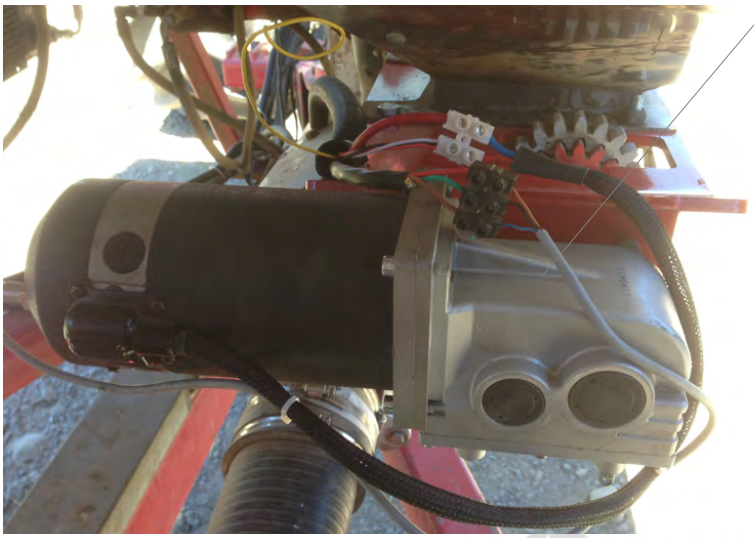
The motor shaft should line up with the colter shaft 100%. Use a suitable shaft connection assembly to join the motor to the colter shaft.

For motor mounting ideas, see the pictures below. Call us any time to talk through any ideas if you need to.
Also we may have a bracket to suit your drill, enquire today.



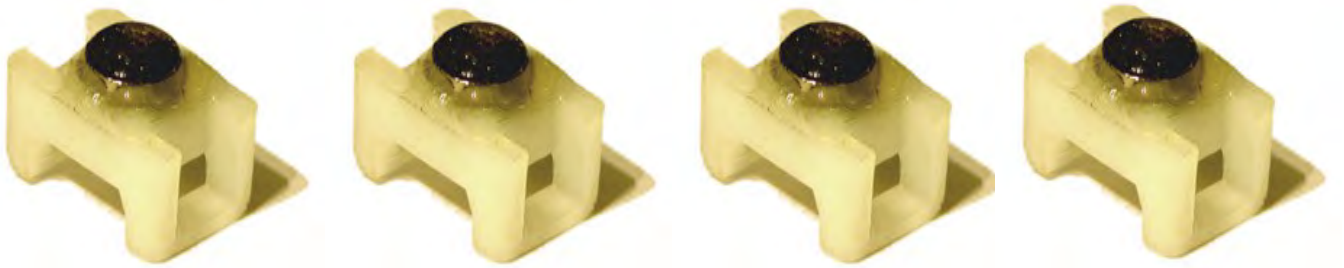
Colter to motor shaft connection. A nylon tube. Keyed to the shaft and pinned at the other end to connect to the colter shaft.

Bracket . Built strong to support the motor. Note that the mount bolts holding the motor to the bracket should be loctited and lock washers fitted.



Mounting the Speed sensor.

The speed sensor is supplied with 4 magnets. Mount the magnets on a ring on a wheel that has constant ground contact. Mount the senor to be triggered by the magnets. Space between all magnet MUST BE TE SAME!



Setting up the distance travel for each wheel pulse.

This sensor is used to measure the distance travelled by the drill. This sensor when triggered lets the meter know that a defined distance has been travelled, from this signal the meter will compute speed, area, rate ,distance drilled and most importantly motor RPM.

<u>Measure the distance travelled by the drill for one distance sensor pulse.</u>

Distance pulse calibration instruction:

After the Distance Pulse sensor and magnet have been installed we now need to enter the distance travelled by the drill each time the distance sensor magnet passes the distance sensor. Follow the below instructions to enter the distance travelled pulse distance.

Step 1: Power up the meter.
Step 2: Scroll down to the SETUP screen.
Step 3: Enter the SETUP screen and scroll down to the PULSE DIST setting.
Step 4: Enter the PULSE DIST screen.

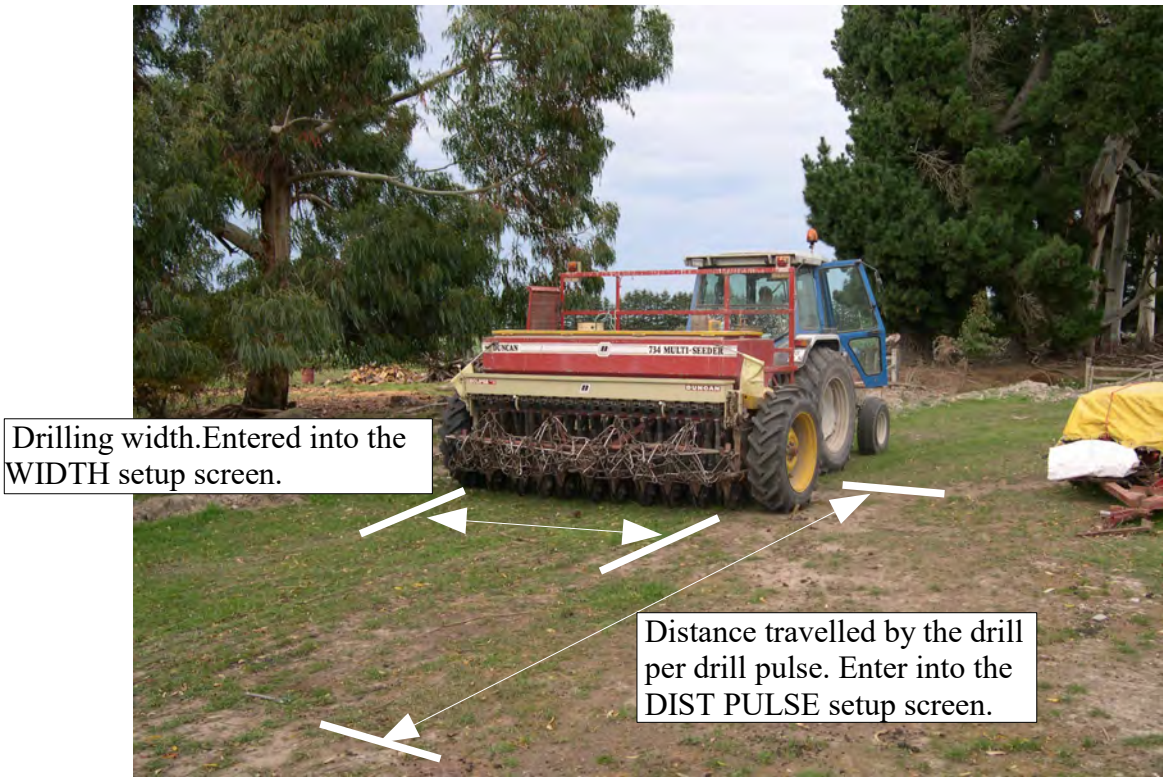
In this screen each time the Magnet passes the Distance Sensor the meter will beep. This beep is used to set up the distance measurement.

A: Drive the tractor forward with drill attached and drill drilling and stop immediately the first beep is heard. When the beep is heard, mark where the drill is currently positioned.
B: Drive forward until the meter beeps a second time and stop immediately.
C: Measure the distance travelled by the drill between the 2 beeps.

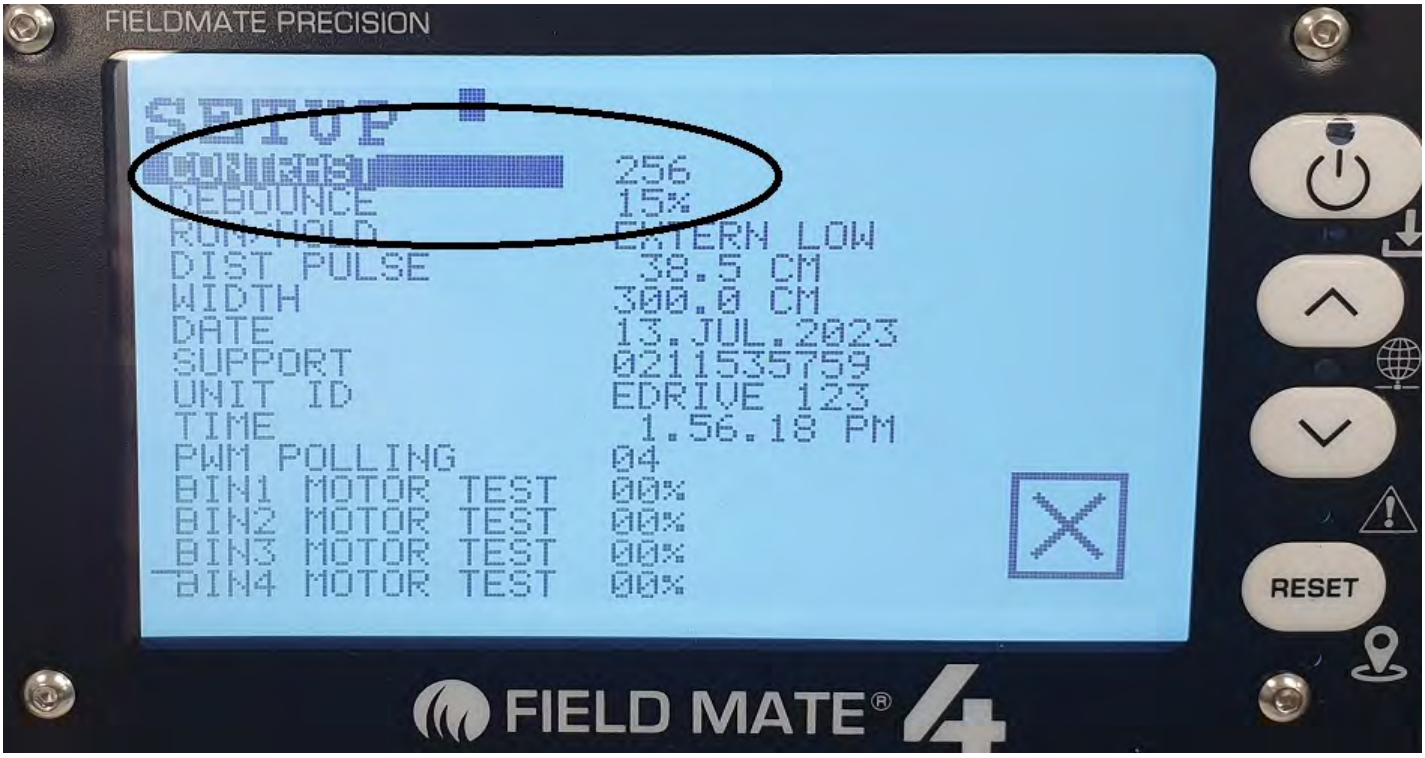
Step 5: Enter this distance into the DIST PULSE screen.
Note: a recommended distance pulse of between 20 and 40 CM is recommended.

Distance pulse sensor calibration complete.

Example of measuring the drill pulse distance



Distance travelled by the drill per drill pulse. Measure this distance accurately with a tape measure and enter this number into the meter.



Mounting the RUN / HOLD sensor.

This sensor when triggered and the drill is moving instructs the motors to start, hence drilling begins.

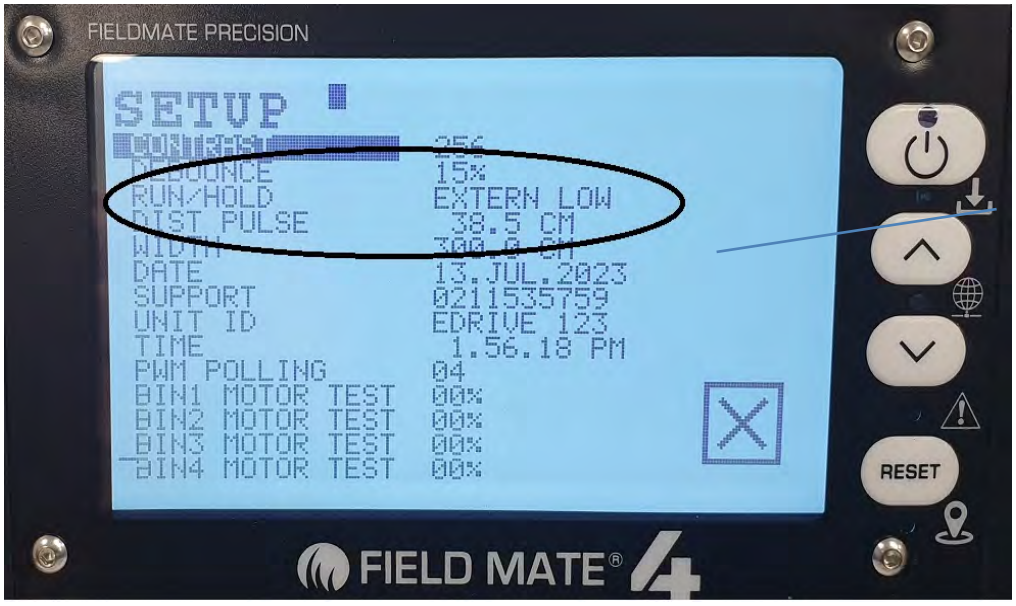
This sensor is mounted on the drill so and magnet triggers the sensor when the drill is at a position to start the drilling operation.

See picture below...

Distance pulse number goes in here....

Sensor

Magnet



RUN HOLD OPTION SHOULD BE EXTERN HIGH.

Setup Complete!

For support contact you local dealer.

For more information

www.areameters.com or www.fieldmate.co.nz

FIELD MATE®

Clearing the Meter.

***Hold the Reset key down for 5 seconds to delete the current job information.**

Reset all Jobs:

1: Turn FIELD MATE tm Off.
2: Hold down the ▼ key, "RESET ALL JOBS" is displayed and a scroll bar counts across at the bottom of the screen.
3: Repeat step 2, 3 times to reset all the job totals.
4: The reset is complete when "RESET ALL JOBS DONE" is displayed.