Dematron Swingover new function March 2022 Side Detect Sensor

With New Hardware & Host Software is now possible that Dematron Swingover Swingarm will detect which side it is switched to by the position of the arm

<u>Requirements</u> Dp5.306 or later Dematron Host software 9.25 or later Hardware kit

Note Cannot be used in conjunction with Kick-off sensors

There will be 3 Variant kits for different generations of Galvanised swingarm & Stainless Steel PosiSwing arms

Existing Easystart sensor & Magnet no longer required

The following pages show the Hardware kit for the Stainless steel PosiSwing Arm



•SwingOver: Identifying side via position switch

•As an alternative to Easystart, a state/position sensor can be connected to the "KickOff" input during development, thus enabling a clear side assignment. Signal is not set -> right side active (switch OFF) Signal is set -> left side active (Switch ON)

Description of the procedure:

- When switching from rinsing to ready for milking, the position of the switch is checked and the corresponding side is activated (display via flashing decimal point on the right or left).

- By swiveling the SwingOver arm, when the input signal is changed, the corresponding side is switched and the milking is started (only if new animal data is available).

PosiSwing Arm Stainless steel Kit Variant 1

2 versions of PosiSwing used with Dematrons Older has 6mm Hole for existing easystart side switch Newer has 16mm hole for cable gland to hold easystart side switch

This kit can be used with either type of PosiSwing

2x M6 x 20 Bolt 2x M6 Ny-lock Nut 1x Large M6 Penny washer 1x Sensor Inductive 1x 3pin Plug Green 3.81mm 1x S/S Sensor Mount/ spacer 1x S/S Sensor Detect plate

Reason for 2x M6 Bolt/Nuts older version needs two bolts

M6 Bolt/Nut/penny washer used to mount sensor detect plate to swingarm

For older Version M6 bolt/nut is used to fix Sensor mounting plate to existing 6mm sensor hole



PosiSwing Arm

Sensor Detect plate mounting

Newer Arm type with M16 cable gland for easystart sensor mount



Older version arm mounting hole (as sensor is offset on older arm)







1x M6 x 20 Bolt 1x M6 Ny-lock Nut 1x M6 Penny washer

Sensor Detect plate should be mounted so it is forward as far as possible in the existing magnet mount hole

the M6 hole should be nearly completely visible

PosiSwing Arm

Sensor Mount plate spacer Newer Arm type with M16 cable gland for easystart sensor mount



Front U-bolt excess thread may need adjustment or cutting off so that sensor detect plate does not hit it when arm is moved

Recommend any cutting to be done before fitting the sensor !

Sensor detect plate should be parallel to end of swingarm tube This keeps sensor same distance from detect plate Sensor mounted on New S/S arm Sensor fitted via existing M16 gland hole



Sensor mounted on New S/S arm

Sensor mount plate is used as spacer plate to reduce end float on swingarm as this will stop sensor being hit sensor detect plate if arm pushed up



PosiSwing Arm

Sensor Mount plate spacer Newer Arm type with M16 cable gland for easystart sensor mount

Sensor mount plate is used as spacer plate to reduce end float on swingarm as this will stop sensor being hit sensor detect plate if arm pushed up





As there is a small variation in the end float gap Sensor Mount plate spacer can be mounted either way around to best fill the gap











Important !

Sensor Nut should be about 2 threads from end of threaded section Do Not have sensor nut next to plastic end as this can effect sensor range / detection

Milking Control at Stalls - 1-215-6, 3-417-8 X Host software 9.25 or later Blocking Special Functions Display Cleaning Reserve-Parameter CIM Inputs / Outputs Kick Off Milking 1 Milking 2 Milking 3 Milk Finish Support Pulsation Backflush General As setting have not been integrated into Dairyplan yet we are using some settings used for other functions 040/000/066 Invert signal polarity of animal retention arm to "low" Dematron Settings Required for DPsetup 050/040/140 Maximum Milk Duration Applies only for Separated **Dematron settings** Milkings Milking 3 040/000/150 040/000/150 Swing Over: How to switch milk stall 0 Switch started manually Swingover How to Change sides 040/000/155 Milking begins at SwingOver stalls with higher numbers **0** Switch Side Manually (A2, B2 etc) **Dematron settings** 050/999/011 Reserve-Param Reserved Parameter 050/999/012 050/999/012 Reserve-Parameter -Manual Feed Only = 31 Milking Control at Stalls - 1-2|5-6, 3-4|7-8 Х -Side Change Switch = 100 Blocking Special Functions Display Cleaning Reserve-Parameter CIM Inputs / Outputs -Side change switch & Manual Feed enabled = 131 Milking 1 | Milking 2 | Milking 3 | Milk Finish Support | Pulsation | Kick Off Backflush General 050/060/010 Enable KickOff function **Dematron settings** 050/060/020 Kick-off Bridge Time 15 050/060/030 Kick-off Wait Time 1.0 Kick Off 050/060/010 • 050/060/040 Kick-off Blink Time 1.0 Enable Kick Off **UN-Ticked** function turned off. I/O's and their connected functions 1/0 I/O Function Description Note **Dematron settings** INL 4 IN 3 050/501/112 Kickoff Signal at stall B of control unit Dematron keypad setting Inputs/Output IN 4 050/501/111 Kickoff Signal at stall A of control unit IN 5 IN3 IN4 set to 'kick off function' < Should be NCO = OFFPlease select an I/O if you want to disconnect its I/O function.

Host software 9.25 or later

As setting have not been integrated into Dairyplan yet we are using some settings used for other functions

Dematron Settings Required for **DPservice**

050/060/010 - Enable KickOff function	No
Special Functions	22
040/000/155 - Milking begins at SwingOver stalls with higher numbers (A	2, B2 etc) Yes
040/000/150 - Swing Over: How to switch milk stall	Switch started manually
050/030/020 - Further measurements	1
040/000/100 - Milk end when new ID	No
Reserve-Parameter	
050/999/009 - Reserve-Parameter	0
050/999/010 - Reserve-Parameter	0
050/999/012 - Reserve-Parameter	100
050/999/013 - Reserve-Parameter	0
050/999/014 - Reserve-Parameter	0
050/999/015 - Reserve-Parameter	0
050/999/016 - Reserve-Parameter	0
050/600/101 - IN 1	EasyStart at stall B of control unit
050/600/102 - IN 2	EasyStart at stall A of control unit
050/600/103 - IN 3	Kickoff Signal at stall B of control unit
050/600/104 - IN 4	Kickoff Signal at stall A of control unit
050/600/105 - IN 5	Lower Cluster (Back Flush) at all stalls of

Kick Off 050/060/010 = No function turned off.

Milking 3

040/000/150 Swingover How to switch milk stall = Switch Started Manually

Reserved Parameter 050/999/012

- -Manual Feed Only = 31
- -Side Change Switch = 100
- -Side change switch & Manual Feed enabled = 131

Inputs/Output

- **IN3** = 'kick off Signal at stall B of control unit'
- **IN4** = 'kick off Signal at stall A of control unit'

<u>Note</u>

Dematron keypad setting Should be NCO= OFF This is set from Keypad

Host software 9.25 or later

Apollo setup additional settings

These setting differ from standard Apollo swingover setup

Dematron Settings Required for Dpservice - Apollo



Note the new Side detect sensor is NOT connected to same place as standard EasyStart connector uses input IN3 IN4 Connections Brown = + Black = In

Blue = -



<u>Note</u>

Dematron keypad setting Should be NCo= OFF





PosiSwing Older arm

Sensor Detect plate mounting

older Arm type with 6mm hole for Easystart sensor mount

Older version arm mounting hole (as sensor is offset on older arm)







When fitted to older arm approximately 8mm gap

PosiSwing Older Arm

Sensor Mount plate Older Arm type with 6mm hole for easystart sensor mount





1x M6 x 20 Bolt 1x M6 Ny-lock Nut 1x M6 Penny washer

<u>Notes</u>

If ProcessControl is not running, Side change will not start unit milking as animal number has not been received & Milk status / Block of animal cannot be established

Side change – Animal has Milking Block, Block has to be confirmed with OK key or unit will not swap sides until Blocking cleared Example Side A, Animal with Milk Block, even if Animal on side A not milked, Clear Milk Block with OK key, BEFORE moving arm to Side B

After first setup & you start testing side change

the unit may not side change when arm swung & Sensor detect status changes ,

To resolve this start the unit milking for 10 seconds then stop wait for Red indicators to go off after that side change should function correctly

If nCo function has been setup for Apollo using 099/999/001 or 050/999/014 when these settings are set to = 0, nCo must be turned off via Dematron keypad