#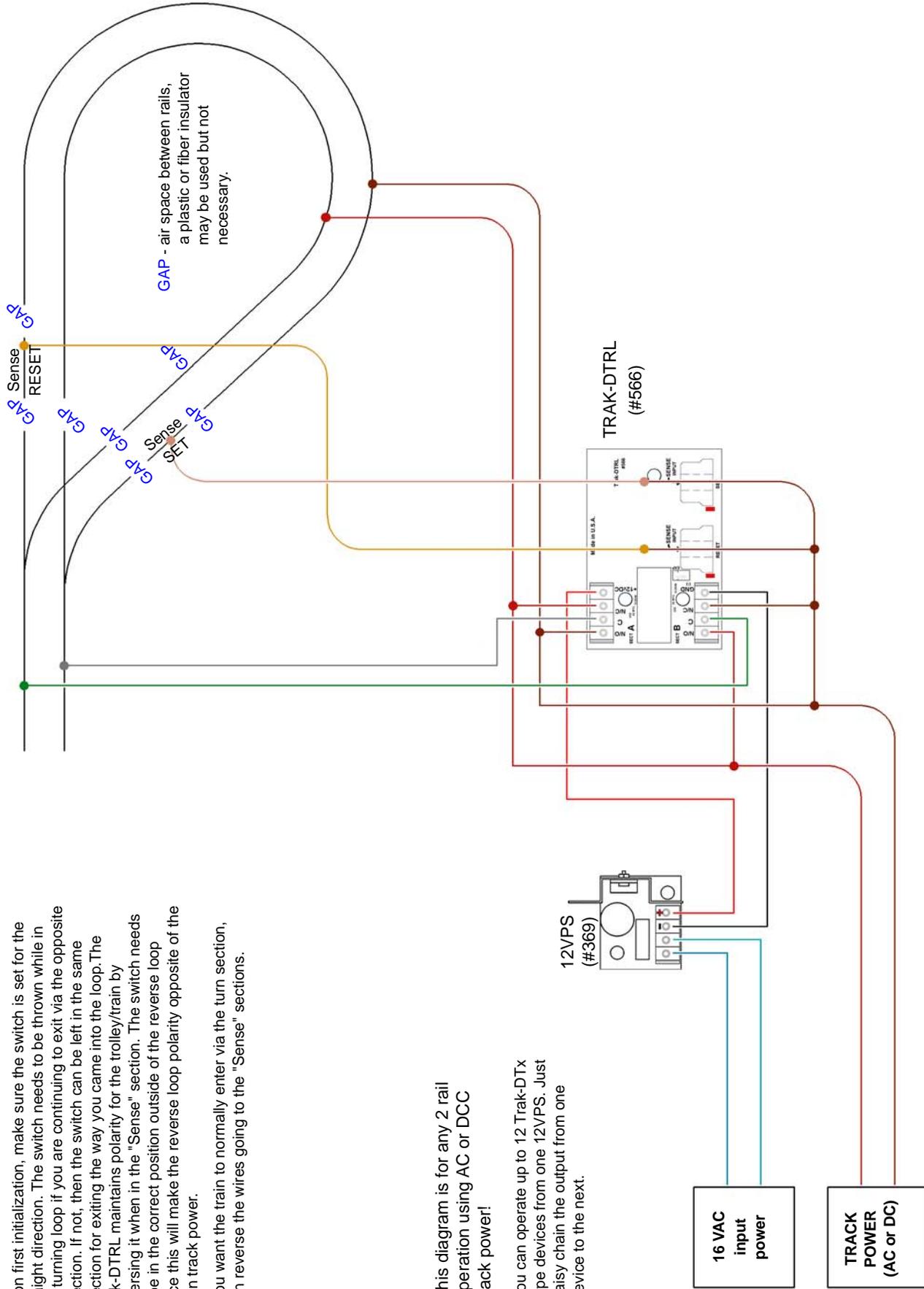 Automatic Reverse of Turning Loops using manual control of switch with track polarity control & memory utilizing the Trak-DTRL.

GAP - air space between rails, a plastic or fiber insulator may be used but not necessary.

GAP

Sense RESET

Sense SET

TRAK-DTRL (#566)

Trak-DTRL #566

Made in U.S.A.

SENSE INPUT

SENSE INPUT

+12VDC

GND

N/C

C

N/O

SET A

B

12VPS (#369)

Upon first initialization, make sure the switch is set for the straight direction. The switch needs to be thrown while in the turning loop if you are continuing to exit via the opposite direction. If not, then the switch can be left in the same direction for exiting the way you came into the loop. The Trak-DTRL maintains polarity for the trolley/train by reversing it when in the "Sense" section. The switch needs to be in the correct position outside of the reverse loop since this will make the reverse loop polarity opposite of the main track power.
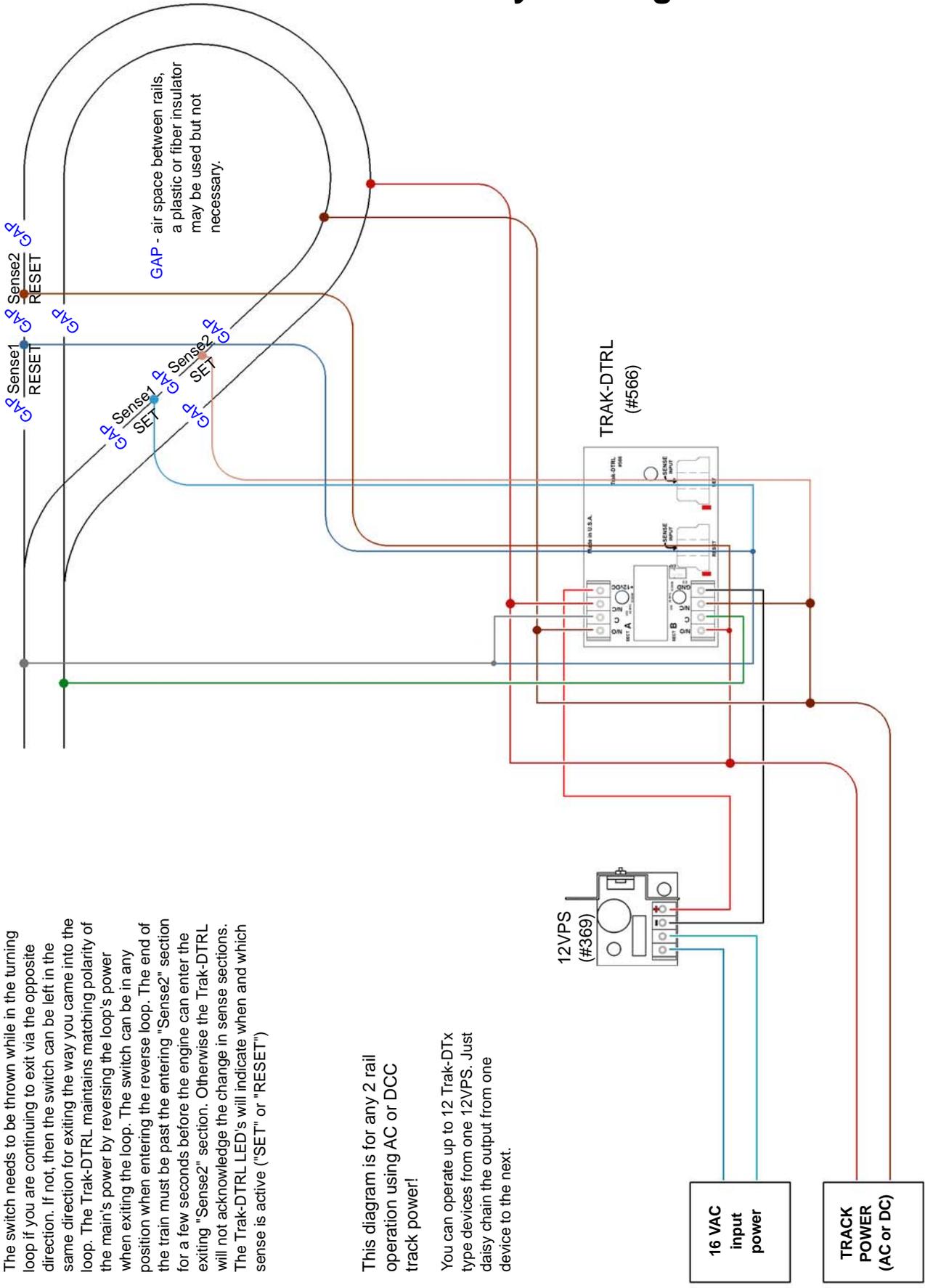
If you want the train to normally enter via the turn section, then reverse the wires going to the "Sense" sections.

This diagram is for any 2 rail operation using AC or DCC track power!

You can operate up to 12 Trak-DTx type devices from one 12VPS. Just daisy chain the output from one device to the next.

16 VAC input power

TRACK POWER (AC or DC)

Automatic Reverse of Turning Loops using manual control of switch with track polarity control & memory utilizing the Trak-DTRL.

GAP - air space between rails, a plastic or fiber insulator may be used but not necessary.

GAP Sense2
RESET

GAP Sense1
RESET

GAP Sense2
SET

GAP Sense1
SET

TRAK-DTRL
(#566)

Made in U.S.A.

SENSE INPUT

SENSE INPUT

RESET

SET A

SET B

12VPS
(#369)

The switch needs to be thrown while in the turning loop if you are continuing to exit via the opposite direction. If not, then the switch can be left in the same direction for exiting the way you came into the loop. The Trak-DTRL maintains matching polarity of the main's power by reversing the loop's power when exiting the loop. The switch can be in any position when entering the reverse loop. The end of the train must be past the entering "Sense2" section for a few seconds before the engine can enter the exiting "Sense2" section. Otherwise the Trak-DTRL will not acknowledge the change in sense sections. The Trak-DTRL LED's will indicate when and which sense is active ("SET" or "RESET")

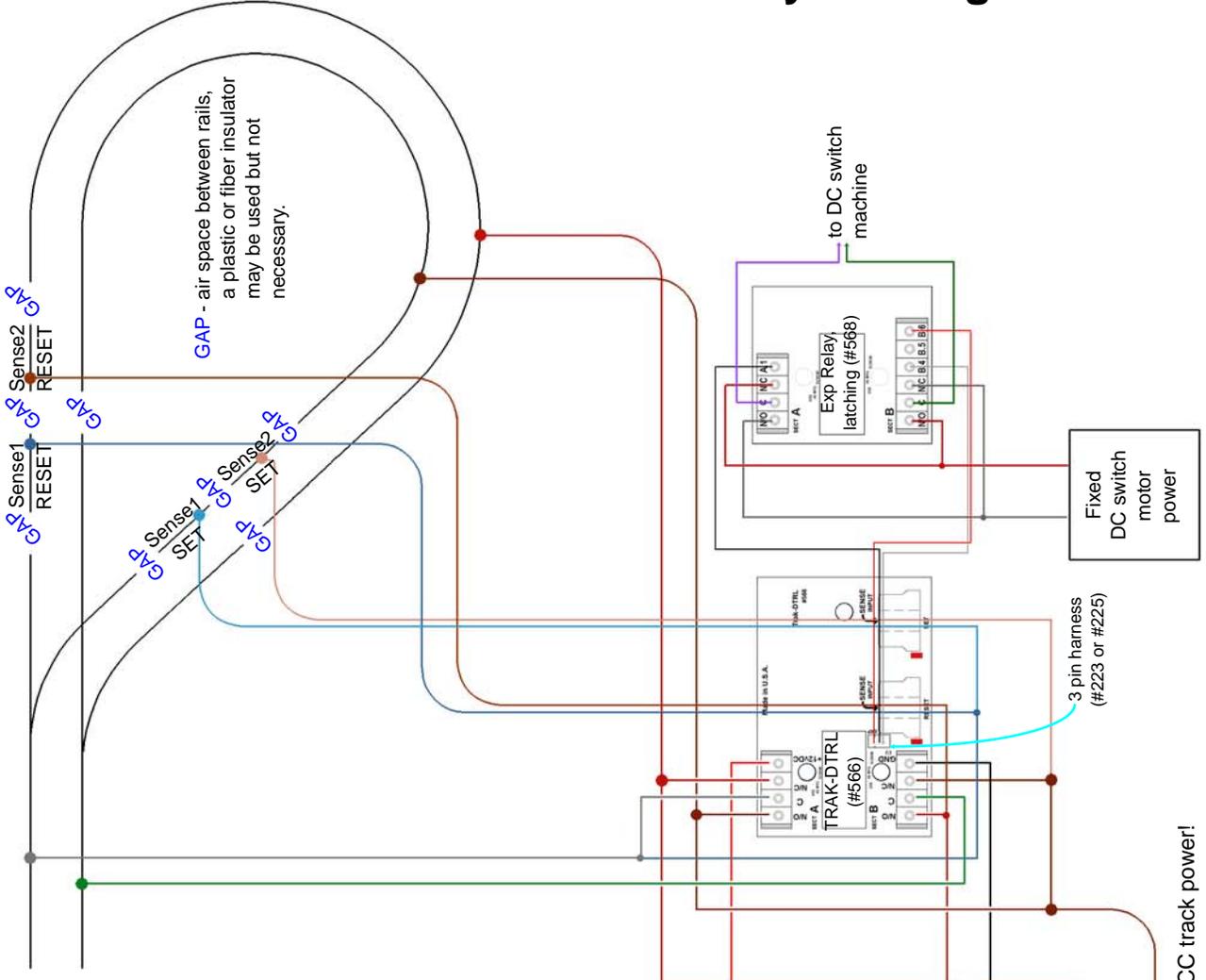This diagram is for any 2 rail operation using AC or DCC track power!

You can operate up to 12 Trak-DTx type devices from one 12VPS. Just daisy chain the output from one device to the next.

16 VAC input power

TRACK POWER (AC or DC)

Automatic Reverse of Turning Loops using automatic control of slow motion DC switches with track polarity control & memory utilizing the Trak-DTRL.

GAP - air space between rails, a plastic or fiber insulator may be used but not necessary.

to DC switch machine

Exp Relay, latching (#568)

Fixed DC switch motor power

Trak-DTRL #566

TRAK-DTRL (#566)

3 pin harness (#223 or #225)

12VPS (#369)

SENSE INPUT

SET

RESET

Made in U.S.A.

Sense2 RESET

Sense1 RESET

Sense1 SET

Sense2 SET

GAP

The switch will thrown while in the turning loop upon entering the Sense2 section when exiting via the opposite direction. If not, then the switch and polarity will be left in the same direction for exiting the way you came into the loop. The Trak-DTRL maintains matching polarity of the main's power by reversing the loop's power when exiting or entering the loop when they do not match. Since the switch is controlled via the Trak-DTRL, then the entering polarity will always match the switches direction. The switch can be in any position when entering the reverse loop. The end of the train must be past the entering "Sense2" section for a few seconds before the engine can enter the exiting "Sense2" section. Otherwise the Trak-DTRL will not acknowledge the change in sense sections. The Trak-DTRL LED's will indicate when and which sense is active ("SET" or "RESET").

For proper switch polarity setup, place an illuminated car or engine into the loop section (between Sense2's). Proceed to the switch. Upon entering the "Sense2" section, the Trak-DTRL will sense the current flow, indicate it on the board via the appropriate RED LED for that section, and set the switch to match the direction you are exiting. If the switch does not match, then simply reverse the power feed to the slow motion switch machine so that it does match. After the switch is setup to match the Trak-DTRL, your all set and the Trak-DTRL will now match polarity and switch settings. You can test this by reversing to the opposite "Sense2" section. Upon entering the switch will reverse as well as the track polarity in the loop.

If it is desired to reverse the switch machine when not in the loop, two momentary switches can be placed in series with a ballast resistor (item #605). Each switches power lead needs to go from the 16vAC power, through the sense coil on the Trak-DTRL, to the ballast resistor, and from the ballast resistor back to the other 16vAC power lead.
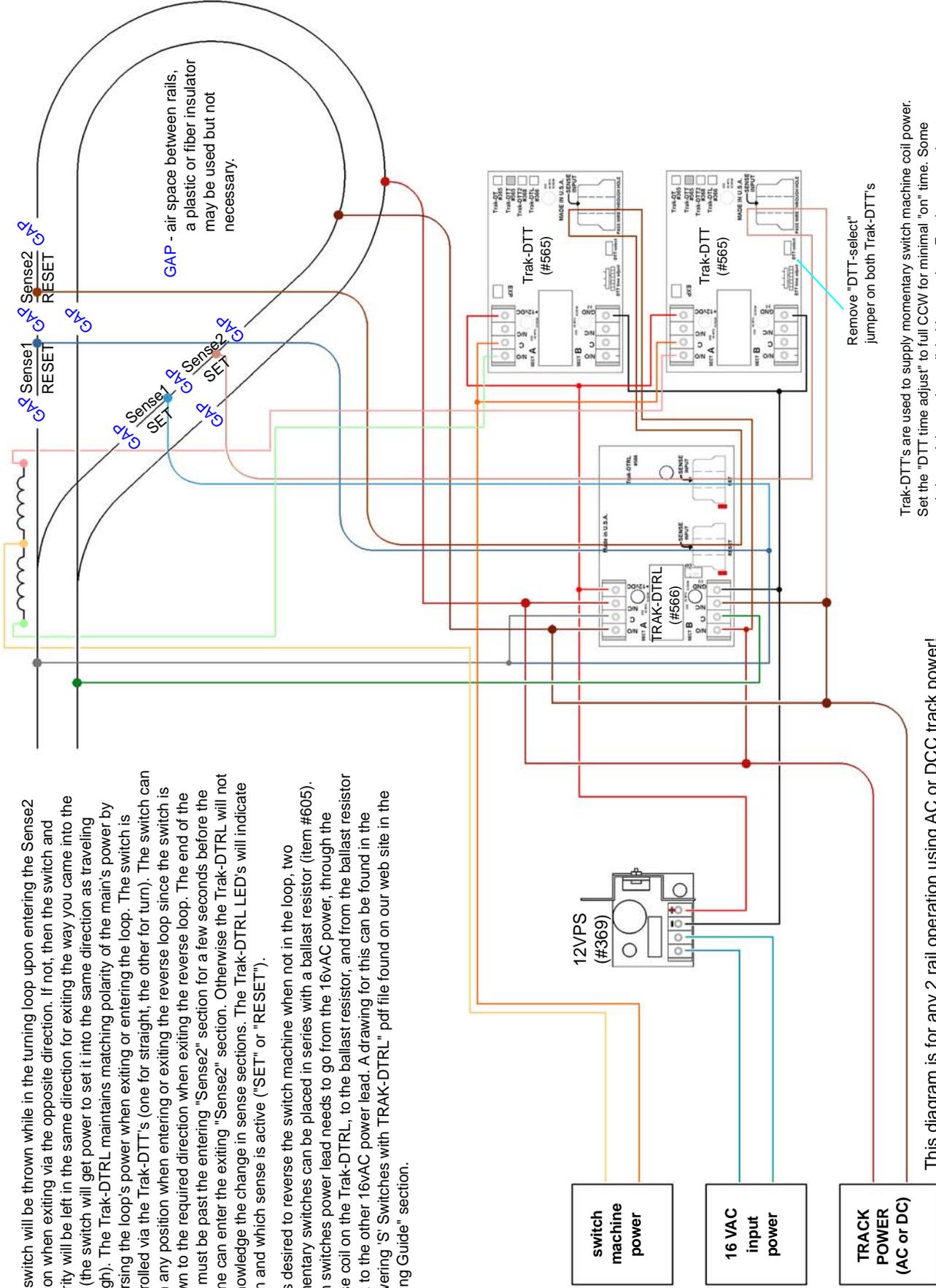
16 VAC input power

TRACK POWER (AC or DC)

This diagram is for any 2 rail operation using AC or DCC track power!

You can operate up to 12 Trak-DTx type devices from one 12VPS. Just daisy chain the output from one device to the next.

Automatic Reverse of Turning Loops using automatic control of twin coil switch machines with track polarity control & memory utilizing the Trak-DTRL and Trak-DTT's.

GAP - air space between rails, a plastic or fiber insulator may be used but not necessary.

GAP Sense2
GAP RESET
GAP Sense1
GAP RESET
GAP
GAP Sense2
GAP SET
GAP Sense1
GAP SET
GAP

Trak-DTT (#565)
Trak-DTT (#565)

Remove "DTT-select" jumper on both Trak-DTT's

Trak-DTT's are used to supply momentary switch machine coil power. Set the "DTT time adjust" to full CCW for minimal "on" time. For those, turn the potentiometer a slight bit CW, but not by much since too much time will cause the switch coil's to overheat!

TRAK-DTRL (#566)

12VPS (#369)

switch machine power

16 VAC input power

TRACK POWER (AC or DC)

The switch will be thrown while in the turning loop upon entering the Sense2 section when exiting via the opposite direction. If not, then the switch and polarity will be left in the same direction for exiting the way you came into the loop (the switch will get power to set it into the same direction as traveling though). The Trak-DTRL maintains matching polarity of the main's power by reversing the loop's power when exiting or entering the loop. The switch is controlled via the Trak-DTT's (one for straight, the other for turn). The switch can be in any position when entering or exiting the reverse loop since the switch is thrown to the required direction when exiting the reverse loop. The end of the train must be past the entering "Sense2" section for a few seconds before the engine can enter the exiting "Sense2" section. Otherwise the Trak-DTRL will not acknowledge the change in sense sections. The Trak-DTRL LED's will indicate when and which sense is active ("SET" or "RESET").

If it is desired to reverse the switch machine when not in the loop, two momentary switches can be placed in series with a ballast resistor (item #605). Each switches power lead needs to go from the 16vAC power, through the sense coil on the Trak-DTRL, to the ballast resistor, and from the ballast resistor back to the other 16vAC power lead. A drawing for this can be found in the "Powering 'S' Switches with TRAK-DTRL" pdf file found on our web site in the "Wiring Guide" section.

This diagram is for any 2 rail operation using AC or DCC track power!

You can operate up to 12 Trak-DTx type devices from one 12VPS. Just daisy chain the output from one device to the next.