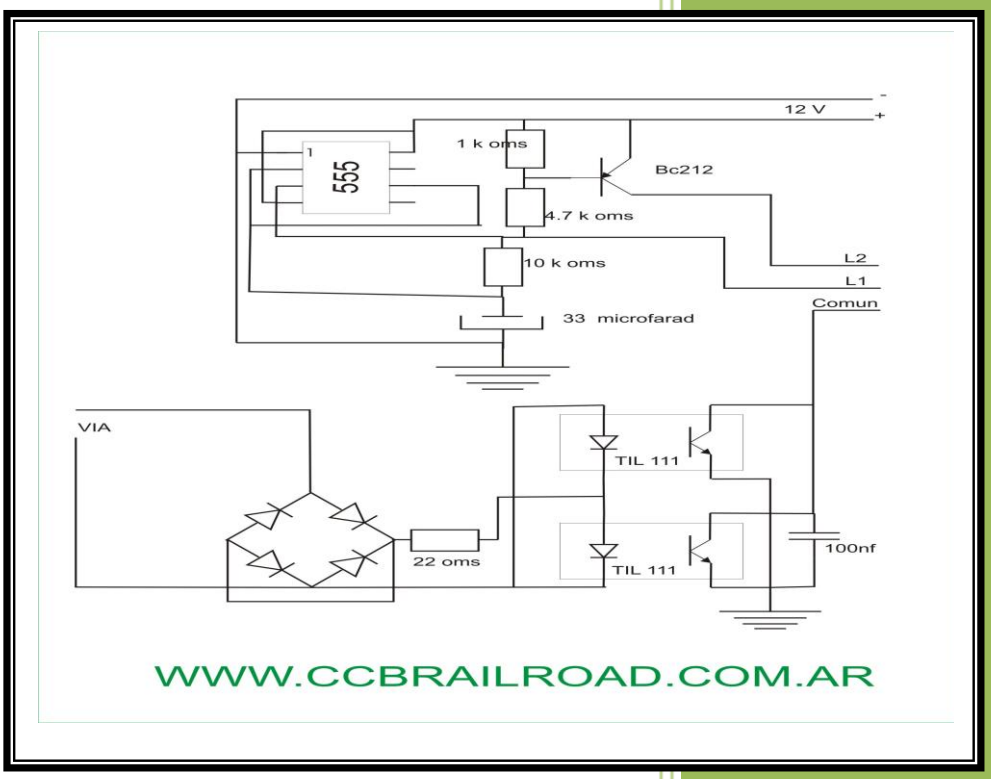
2019

DETECTORES DE VIA PARA FERROMODELISMO



CCB Railroad

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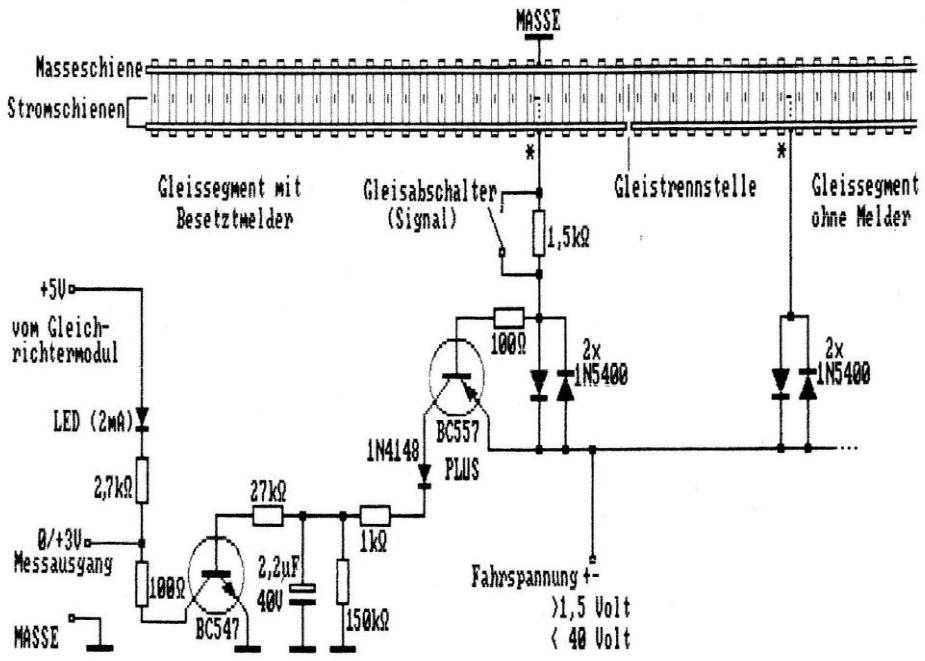
01/01/2019

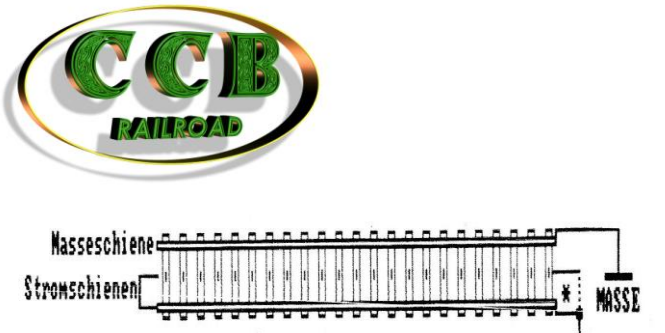
DETECTORES DE VIA

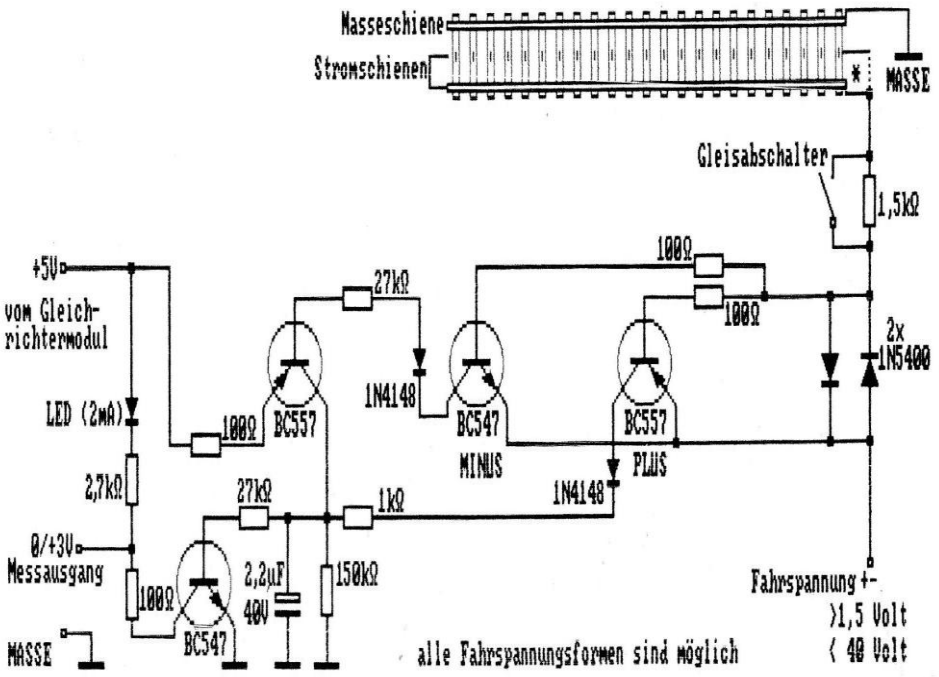
Los detectores de vía se usan para poder saber en donde esta un tren en cada momento y para el accionamiento de señales o accesorios como barreras etc.

Algunos detectan el consumo de vía ya sea por motores, luces de vagones o algún elemento resistivo que conecte los dos rieles.

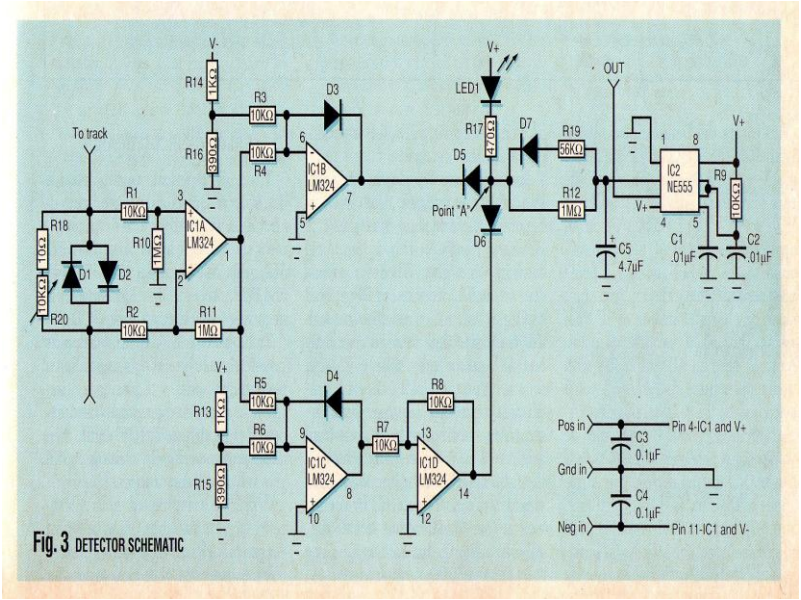
En este esquema se muestran dos detectores de la revista MIBA que funcionan para corriente alterna o continua, el primero detecta en un solo sentido y el segundo para ambos sentidos la salida puede ser aplicada a un rele u otro dispositivo que se necesite.







En este esquema se muestran dos detectores de la revista MODEL RAILROAD que funcionan para corriente continua, el primero detecta en para ambos sentidos El segundo es para DCC detectando la señal del decoder de la loco, la salida puede ser aplicada a un rele u otro dispositivo que se necesite.



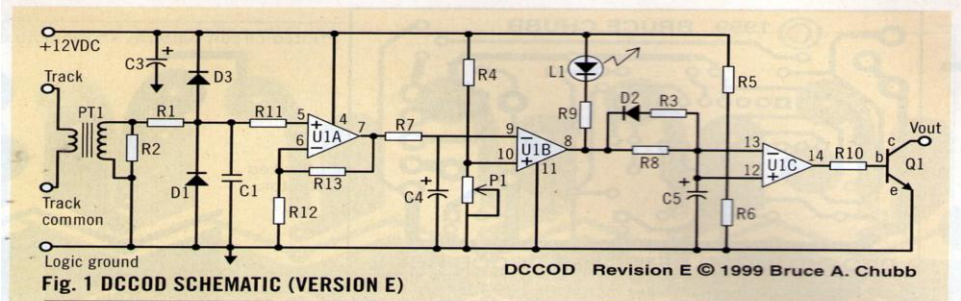


Fig. 1 DCCOD SCHEMATIC (VERSION E)

PARTS LIST (In recommended order of assembly)

Qty.	Symbol	Description
2	R1,R2	1.0KΩ resistors [brown-black-red]
1	R3	220KΩ resistor [red-red-yellow]
3	R4-R6	100KΩ resistors [brown-black-yellow]
1	R7	10KΩ resistor [brown-black-orange]
1	R8	3.3MΩ resistor [orange-orange-green]
2	R9, R10	1.0KΩ resistors [brown-black-red]
2	R11, R12	10KΩ resistors [brown-black-orange]
1	R13	1.0MΩ resistor [brown-black-green]
1	D1	Fast Schottky barrier rectifier (Digi-Key SD103ACT)
1	D2	1A, 100V diode (Digi-Key 1N4002GICT)
1	D3	1A, 100V high speed diode (Digi-Key 1N4934CT)
1	S1	14-pin DIP socket (Digi-Key A9314)
1	S2	5-pin Waldom side entry connector (Mouser 538-09-52-3051) or (Digi-Key WM 3302)
1	C1	.01µF monolithic capacitor (JDR .01UFMONO)
0	C2	Not used in Revision E Detector
3	C3-C5	1.0µF, 35V tantalum capacitors (Jameco 33662)
1	P1	10KΩ potentiometer (Jameco 94713) or (Mouser 320-1510-10K)
1	Q1	2N3904 small signal transistor (Jameco 38359) or (Digi-Key 2N3904)
1	L1	Red diffused size T1 LED (Digi-Key P363)
1	U1	LM324N quad op amp (Jameco 23683)
1	W1	No. 22 solid insulated hook up wire or equivalent (see text), cut as required (JDR WJW22R with .045" insulation OD gives you 6-turn capability)
1	PT1	Current-sensing pulse-transformer (JLC PT1)

Author's recommendations for suppliers given in parentheses with part numbers where applicable. Equivalent parts may be substituted. Resistors are ¼ W, 5 percent with color codes given in brackets.

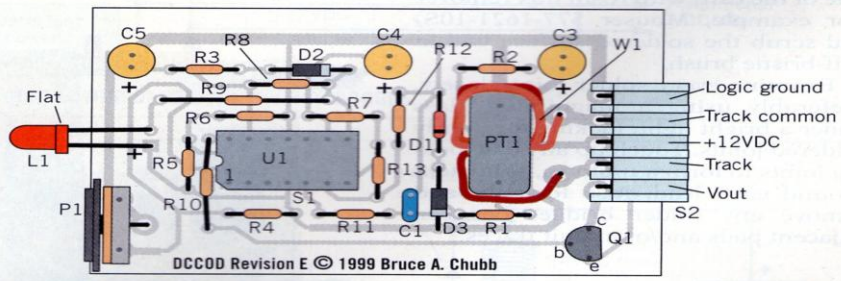
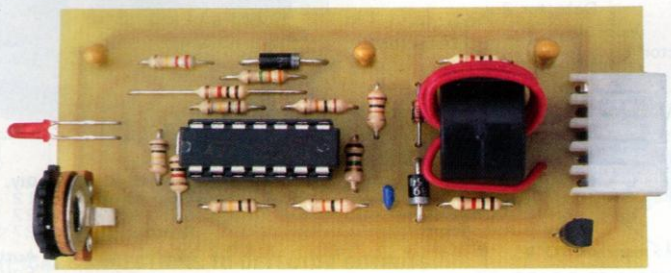
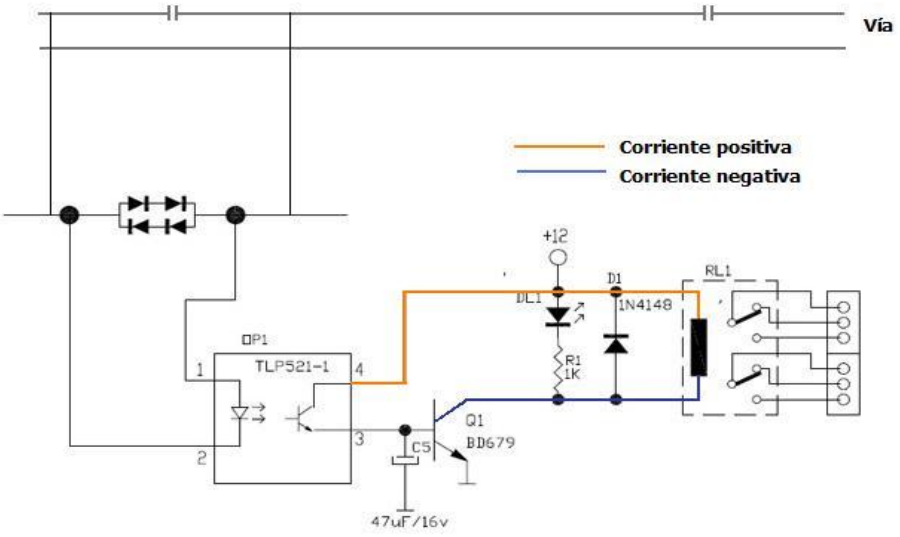
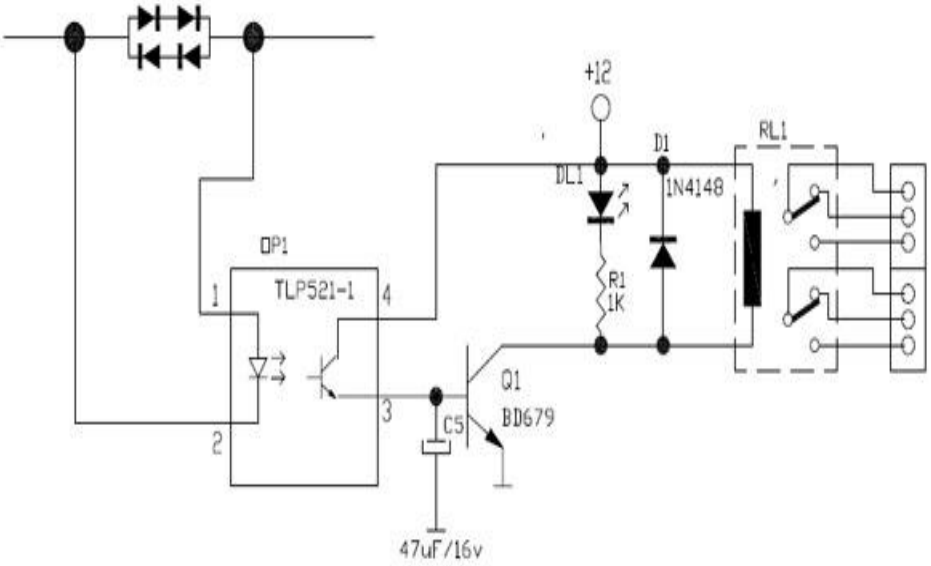


Fig. 2 DCCOD PARTS LAYOUT



Otros esquemas de detectores y su conexionado, la salida puede ser aplicada a un rele u otro dispositivo que se necesite.


Vía
Corriente positiva
Corriente negativa
+12
D1
1N4148
RL1
DL1
R1
1K
OP1
TLP521-1
1
2
3
4
Q1
BD679
C5
47uF/16v


+12
D1
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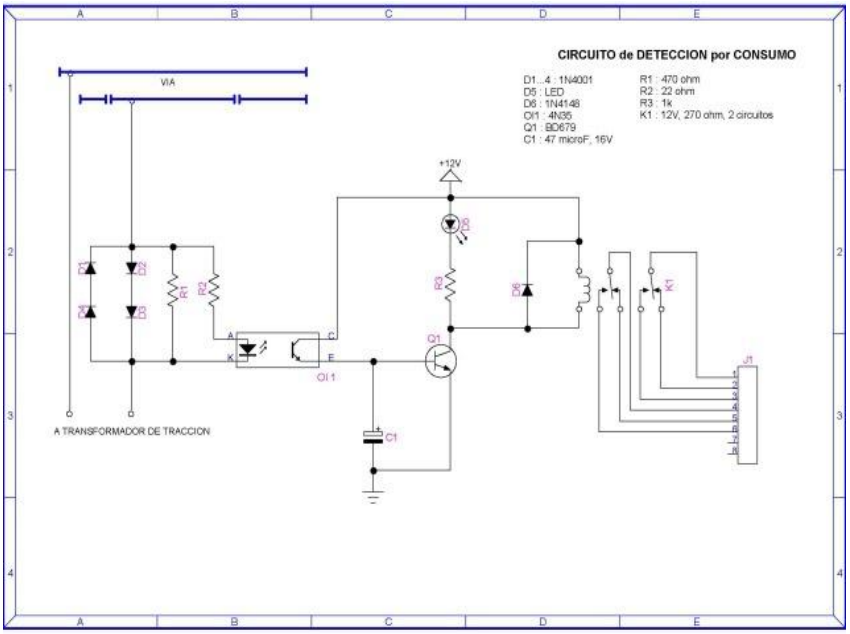

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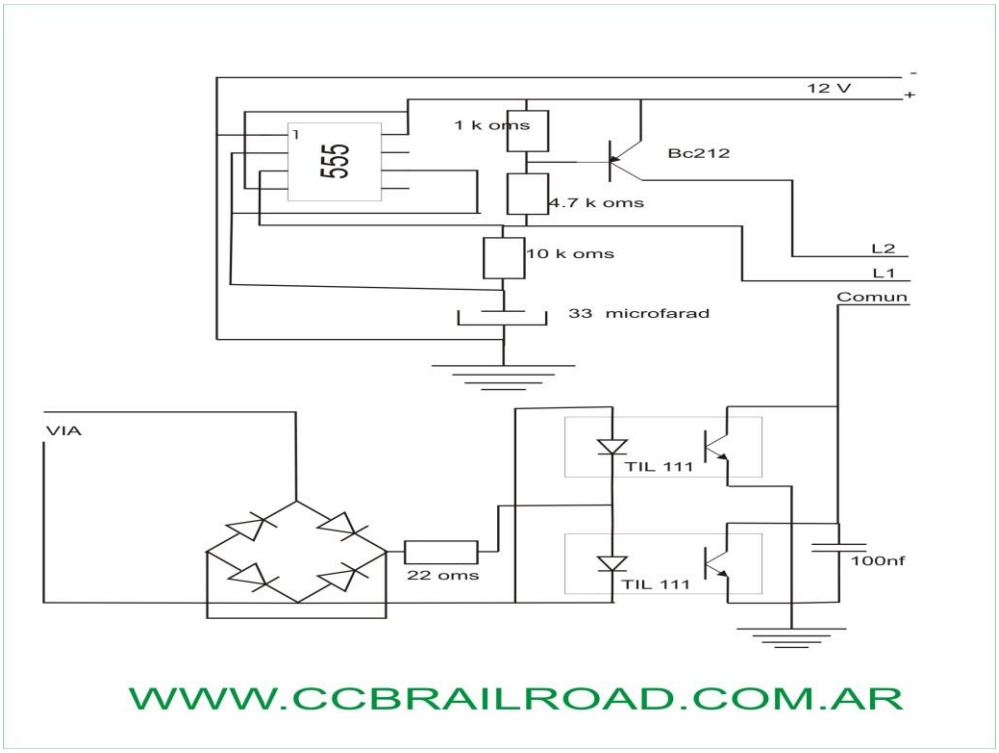

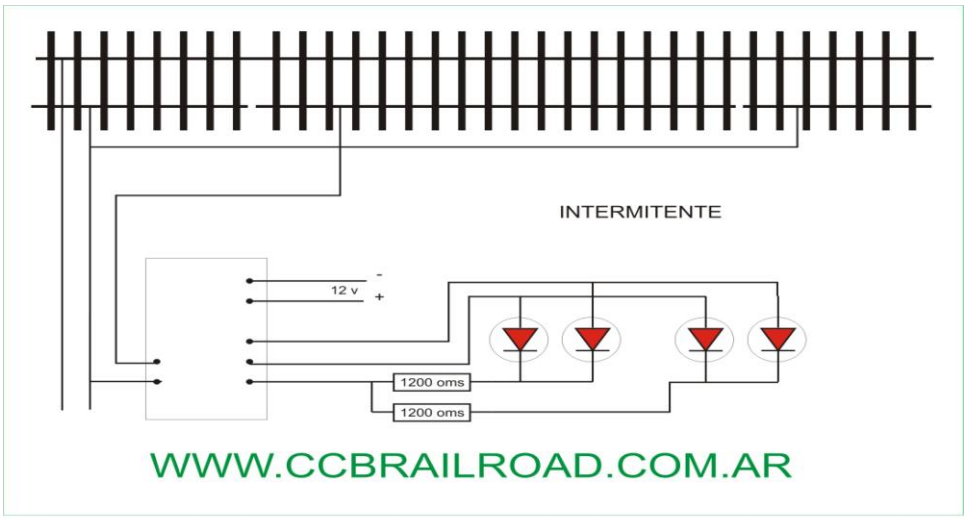
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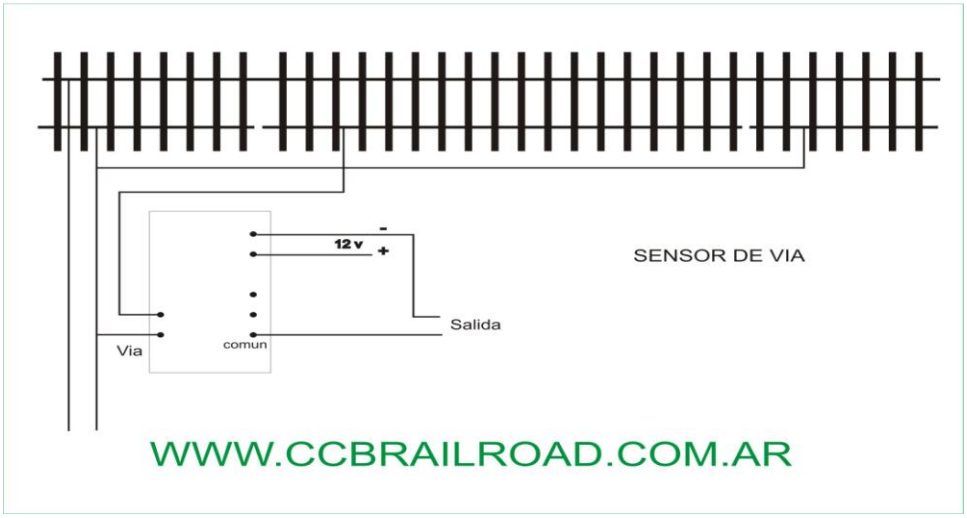
12 v
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+
SENSOR DE VIA
Salida
Via
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